STRATEGIC MARKET PERSPECTIVE

Information Systems Outsourcing Market Europe 1995-2000

Outsourcing Programme—Europe

Information Systems Outsourcing Market, Europe 1995-2000

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Germany
Tel. +49 (0) 6403 911420
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London
Cornwall House
55-77 High Street
Slough, Berkshire
SL1 1DZ
Tel: 44 (0) 1753 530444
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New York
400 Frank W. Burr Blvd.
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U.S.A.
Tel. 1 (201) 801-0050
Fax 1 (201) 801-0441

Paris
24, avenue du Recteur
Poincaré
75016 Paris
France
Tel. +33 (1) 46 47 65 65
Fax +33 (1) 46 47 69 50

San Francisco
1881 Landings Drive
Mountain View
CA 94043-0848
U.S.A.
Tel. 1 (415) 961-3300
Fax 1 (415) 961-3966

Tokyo
Saida Building, 4-6,
Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101
Japan
Tel. +81 3 3864-0531
Fax +81 3 3864-4114

Washington, D.C.
1921 Gallows Road
Suite 250
Vienna, VA 22182 3900
U.S.A.
Tel. 1 (703) 847-6870
Fax 1 (703) 847-6872

Abstract

The purpose of this report is to track the key trends in the European information systems outsourcing market and to provide a comprehensive forecast of the size of the market over the period 1995-2000. In addition, the report forecasts the changing pattern of demand, and hence service types, within Europe.

The report provides:

- An analysis of the changing nature of the European information systems outsourcing market, including a discussion of the evolution of key motivations for outsourcing over the forecast period

- Analyses of the nature of the outsourcing opportunity within each of the major industry sectors

- Forecasts by delivery mode for Europe and each individual country

- Forecasts of the information systems outsourcing market by industry.

Research by
INPUT
Cornwall House
55-77 High Street,
Slough, Berkshire, SL1 1DZ,
United Kingdom

Published by
INPUT
1881 Landings Drive
Mountain View, CA 94043-0848
United States of America

Outsourcing Programme—Europe

*Information Systems Outsourcing
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Introduction

A

Scope and Objectives

Despite a reduction in growth in the platform operations segment, growth in the European outsourcing market still shows no signs of slackening. The reduction in growth in the platform operations segment is being more than counterbalanced by an increasing acceptance of strategic outsourcing by major organisations throughout Europe, and by the demand for external management of client/server IT infrastructures.

The objectives of this report are:

- To identify the major market trends taking place in the European outsourcing market

- To forecast the size of the European outsourcing market by delivery mode, industry and country

- To identify the key business pressures and outsourcing trends within a number of key industry sectors.

Outsourcing is defined by INPUT as follows:

Outsourcing is a long-term relationship (greater than one year) between a client and vendor in which the client delegates all, or a major portion, of an operation or function to the vendor. The operation or function may be solely Information Systems Outsourcing-based, or may merely include Information Systems Outsourcing as a prominent component of the operation (at least 30% of the budget).

The critical components defining an outsourcing service are:

- Delegating an identifiable area of the operation to a vendor

- Single vendor responsibility for performing that delegated function

- Intended, long-term relationship between the client and vendor

- Contract term of at least one year

- Client's not intending to perform this function using internal resources

- The contract may include non-Information Systems Outsourcing activities, but Information Systems Outsourcing must be an integral part of the contract

- Outsourcing is a collection of services integrated under a single, long-term contract with one vendor responsible for its operation and management.

Business Operations Outsourcing (also known as Business Outsourcing or Functional Outsourcing) is a relationship in which one vendor is responsible for performing an entire business/operations function including the Information Systems Outsourcing that supports it. The Information Systems Outsourcing content of such a contract must constitute at least 30% of the total annual expenditure in order for INPUT to include it in the Business Operations Outsourcing market.

Information Systems (IS) Outsourcing can be viewed as a component of the Business Operations Outsourcing market (i.e., Information Systems Outsourcing is a business/operations function, see Exhibit I-1). However, in order to distinguish between outsourcing contracts that are solely IS versus those that include IS as well as other functions, IS Outsourcing will be separated from Business Operations Outsourcing. Information Systems Outsourcing is divided into four service components as shown in Exhibit I-2.

- *Systems Operations* Outsourcing describes a relationship in which a vendor is responsible for managing and operating a client's computer system/datacentre (*Platform Systems Operations*) or developing and/or maintaining a client's application as well as performing Platform Operations for those applications (Applications Systems Operations).

- *Desktop Services* is a relationship in which a vendor assumes responsibility for the deployment, maintenance and connectivity of personal computers, workstations, client/server and LAN systems in the client organisation. To be considered as Desktop Services Outsourcing, a contract must include a significant number of the individual services listed below.

- Software Product Supply
- Equipment Supply
- Equipment/Software Installation
- Equipment Maintenance
- LAN Installation and Expansion
- LAN Management
- Network Interface Management
- Client/Server Support
- Logistics Management
- User Support
- Help Desk Functions
- User Training and Education

- *Network Management* Outsourcing is a relationship in which a vendor assumes full responsibility for operating and managing the client's data telecommunications systems. This may also include the voice, image and video telecommunications components.

- *Application Management* is a relationship in which the vendor has full responsibility for developing and maintaining all of the application or function.

Exhibit I-1

Business Operations Outsourcing

Business Activity

Business Operations Outsourcing

Information Systems

Information Systems Outsourcing

Source: INPUT
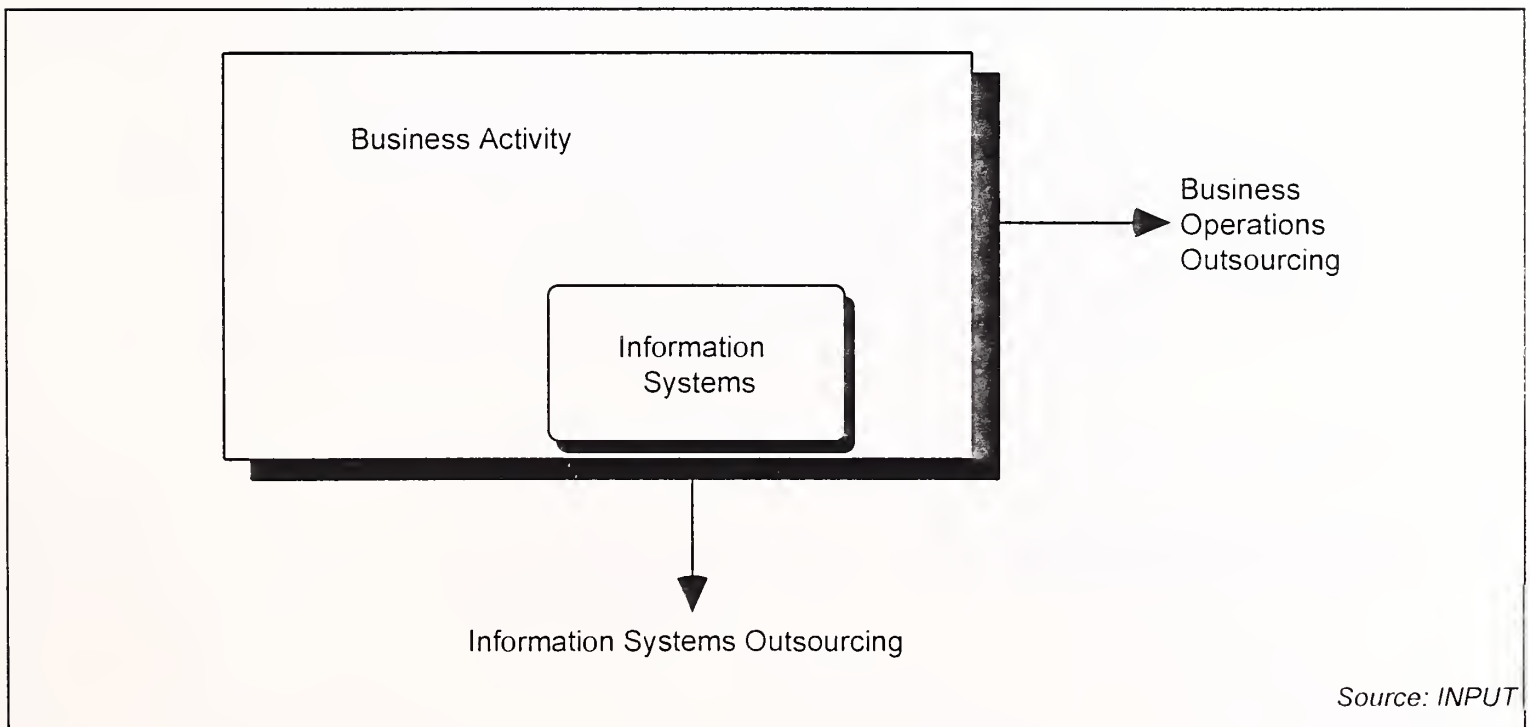
Exhibit I-2

Information Systems (IS) Outsourcing Service Categories

Source: INPUT
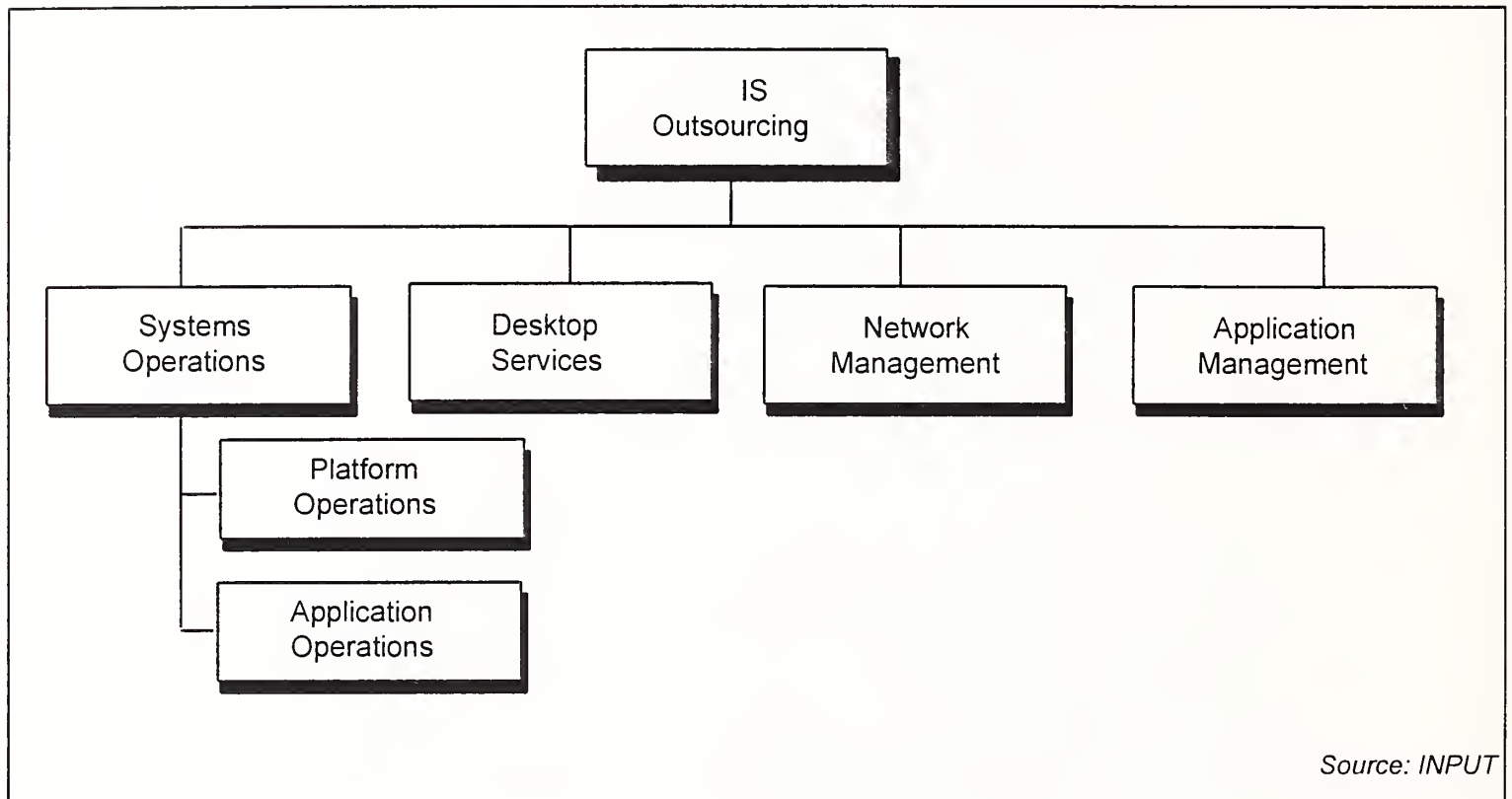
The above definitions focus on the services covered in the outsourcing contract. For example, an Application Operations contract can include all facets of Information Systems Outsourcing (platform operations, desktop services, network and application management). The key to INPUT's market definition is the service contract. If a customer only wants to outsource the network, it is Network Management Outsourcing. If an airline, for example, wishes to outsource their reservation operation which includes not only the network, but also its infrastructure, applications and the people running the operation, this is a Business Operations Outsourcing contract. Exhibit I-3 shows the service components that may be included in each outsourcing service category.

Exhibit I-3

Outsourcing Service Components

Component	Platform Ops	Appl. Ops.	Desktop Services	Network Mgt.	Appl. Mgt.	Business Ops.
Project/Contract Management	X	X	X	X	X	X
DataCentre Management	X	X				X
Client\Server Operations	X	X	X			X
Equipment Maintenance	X	X	X			X
System Software Maintenance	X	X	X	X		X
Application Software Maintenance		X	X		X	X
Application Development		X			X	X
LAN Management		X	X	X		X
WAN/MAN Management		X		X		X
Transaction Processing Services		X				X
Other Professional Services		X	X		X	X
Business Process Operations						X

Source: INPUT

The largest, most visible contracts awarded over the past year have been typically Application Operation outsourcing contracts since they, at least, included management of the infrastructure (datacentres and various computing platforms) and the support of some legacy applications. In the past, most Application and Platform Operation outsourcing contracts included network management but recent contracts have also included desktop services.

What is not included in INPUT's world of outsourcing are the following:

- Project-based services are not considered as part of outsourcing. Thus, Systems Integration and application development projects are not included

- Services that were never intended to be performed internally. Maintenance-only services do not constitute an outsourcing function by themselves. However, responsibility for hardware and software maintenance is inherent in most outsourcing contracts

- Processing services contracts of less than one year

- Voice-only network management

- Business operations with minimal information systems content. For example, the outsourcing of the marketing communication function to an outside agency is not covered by INPUT's analysis. A function or business operation must have at least 30% of its budget attributed to information technology, in order to be included.

B
Methodology

The data shown in this study was derived from the following combination of sources:

- A vendor research programme of over 500 interviews with key software and services vendors across Europe

- A further 1,000 vendor and user interviews across all European market sectors to determine trends and opinions

- INPUT's continuous analysis of the delivery modes and vertical industry sectors comprising the computer software and services market

- INPUT's extensive library and database of information relating to the European outsourcing market.

In addition, further interviews with representatives of 88 organisations were carried out across a number of industry sectors to determine the key pressures on these sectors and their relative propensity to adopt each of the various modes of IT outsourcing.

These interviews were spread across organisations in France, Germany, and the U.K. and between senior non-IT executives, such as chief financial officers, and IT managers.

The interviews were divided across industry sectors as shown in Exhibit I-4.

Exhibit I-4

Interview Profile by Industry

Sector	Number of interviews
Banking and finance	17
Insurance	6
Discrete manufacturing	23
Process manufacturing	22
Retail distribution	5
Wholesale distribution	4
Transportation	11
Total	88

Source: INPUT

All interviews were carried out with organisations with annual revenues in excess of $100 million.

While the number of interviews within some of these sectors is significantly lower than others, these interviews have been used to give an indication of business pressures and attitudes to outsourcing across each sector listed.

C
Report Structure

Chapter II consists of the Executive Overview which is a summary of the key findings of the report.

Chapter III provides forecasts of the European outsourcing market by delivery mode.

Chapter IV provides a forecast of the European outsourcing market by industry sector and analyses the nature of outsourcing opportunities within each of the following sectors: banking and finance, insurance, discrete manufacturing, process manufacturing, retail distribution, wholesale distribution and transportation.

For each sector, it analyses:

- Key business pressures

- The key IT challenges

- Areas of satisfaction and dissatisfaction with IT functions performed in-house

- The perceived necessity of performing individual IT functions in-house

- Key outsourcing opportunities.

Chapter V provides forecasts by delivery mode for each individual country market. Forecasts by industry sector are provided for France, Germany, U.K., Italy and Sweden.

D
Related Reports

Outsourcing Opportunities in Government — Europe, 1993-1998

Client Satisfaction with IT Outsourcing Services — Europe, 1993

Business Operations Outsourcing — Europe, 1993

Desktop Services Outsourcing — Europe, 1994

Information Systems Outsourcing Market — Europe, 1994-1999

Impact of Business Reengineering on Outsourcing — Europe, 1994

Identifying & Winning Outsourcing Opportunities — Europe, 1994

Network Outsourcing — Europe, 1995

II
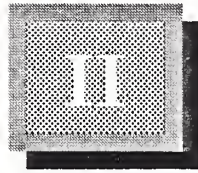
Executive Overview

A

Growth in European Outsourcing Market Remains Strong

Outsourcing is still often portrayed as a short-term phenomenon, concerned primarily with tactical cost reduction exercises. From this viewpoint, it is argued that outsourcing is close to reaching saturation point and the use of outsourcing will begin to decline as the major European economies return to growth, as businesses recover their confidence and as organisations learn how to increase the productivity of their own datacentres.

However, the evidence in the market does not appear to support this case. In practice, growth in the European outsourcing market remains strong. In the short term, major contracts recently signed in Germany, Italy and the U.K. assure considerable outsourcing revenue growth during 1995 in these countries. However, the evidence also points to strong growth in outsourcing for the remainder of the century, at least. Throughout Europe, medium-term growth in outsourcing is being fuelled by:

- The increasing propensity of large organisations to use outsourcing strategically rather than tactically

- Vendors' growing ability to offer sophisticated management of client/server IT infrastructures.

This Executive Overview discusses these two major growth drivers and the pattern of outsourcing that is emerging by industry sector. For example, the insurance and discrete manufacturing sectors are in the forefront of those sectors taking a more strategic approach to outsourcing, while the process manufacturing and retail sectors show a comparatively high propensity to outsource the management of their distributed IT infrastructures.

INPUT's overall forecast for the European outsourcing market is shown in Exhibit II-1.

Exhibit II-1

European Outsourcing Market

Source: INPUT
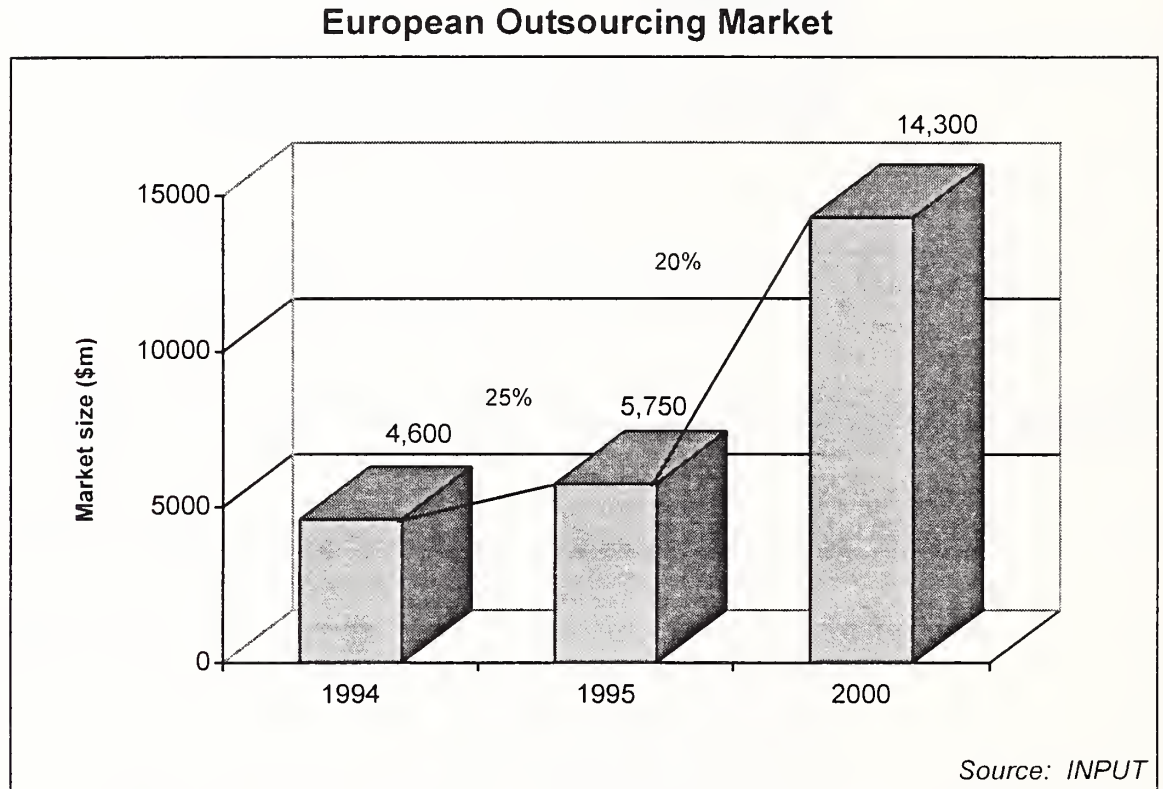
This forecast includes both IS outsourcing and business operations outsourcing.

Growth is forecast to be strongest in the European outsourcing market over the next two years, with growth of 25% in 1995 and 22% in 1996. By the year 2000, the annual growth rate is forecast to decline to 17%.

B

Increased Use of Strategic Outsourcing

Much activity in the outsourcing market is still primarily associated with cost reduction and the transition from centralised to decentralised IT infrastructures. For example, the British Aerospace contract was primarily driven by a desire for cost reduction and a short-term capital injection rather than a desire to reengineer the manner in which IT was applied to the organisation's business.

However, there are other contract examples, particularly in the insurance sector, where the need to rethink the application of IT to the organisation's business has been of considerable importance.

Exhibit II-2 illustrates the manner in which the driving forces responsible for the adoption of outsourcing are changing.

Exhibit II-2

Evolution of Outsourcing Motivations

Motivations for Outsourcing	1995	2000
Managing transition between architectures	***	*
Cost reduction/capital injection	****	**
Technical complexity	**	****
Re-application of IT to the business	**	*****
Outsourcing of non-core processes	*	*****

Source: INPUT

Overall, there is currently a very high level of enthusiasm for IT in Europe. Many European executives now recognise the potential of information technology to assist proactively in the reengineering of key business processes and are increasingly prepared to be more aggressive in their use of IT. However, many organisations are experiencing difficulty in implementing such a strategy. The main IT issue for major organisations in Europe at the present time is their effectiveness in applying IT to business processes to gain commercial advantage.

Accordingly, some organisations are turning to outsourcing vendors whom they believe to possess greater experience in applying information technology within their industry sector.

The concepts of IT outsourcing and business reengineering are perceived to have strong cultural compatibility and to share a number of common themes such as cost-saving, increased flexibility and improved core-business focus.

Indeed, the characteristic that distinguishes many outsourcing clients from other organisations is not a desire to lessen the role of IT within their organisations, but a combined need to use IT more effectively while simultaneously reducing their IT expenditure. Overall, organisations adopting outsourcing are more likely than their counterparts to increase their use of information technology.

At the same time, organisations are becoming increasingly prepared to outsource entire business processes that are either non-core or not performed to a world-class standard in-house.

These changes in the market necessitate a corresponding change in skill mix by vendors, as shown in Exhibit II-3.

Exhibit II-3

Vendor Skill Requirements

Skill	1995	2000
Technical capability	*****	***
Ability to identify process improvements	***	*****
Business process management	**	****

Source: INPUT

At present, users perceive vendors as possessing low levels of ability to identify business process improvements. This must change as clients place increasing emphasis not on technical skills but on the ability to effectively apply technology in pursuit of corporate goals.

Over the forecast period, organisations will also seek to outsource non-core business processes in their entirety. At present, this trend is most noticeable within the North Sea oil operators and the U.K. public sector. Indeed, the Treasury in the U.K. is attempting to use outsourcing as a key vehicle to solve the problems traditionally faced by major projects carried out on behalf of central government departments. These projects have often:

- Not been implemented on time or to budget

- Not delivered the organisational benefits anticipated.

Outsourcing projects carried out within the Public Finance Initiative address these issues by requesting delivery of an operational service over a prolonged period rather than completion of a project. This places the onus on the supplier:

- To finance any initial capital investment costs

- To assume the risks associated with budget overruns and late delivery

- To ensure that any systems developed are initially fit for purpose and subsequently enhanced to maintain a high level of operational performance.

However, opportunities are also beginning to emerge elsewhere, notably in the insurance sector which is undergoing a period of major structural change.

C
Increased Vendor Client/Server Management Capability

The other major trend in the European outsourcing market is the increasing proportion of outsourcing related to client/server architectures rather than datacentres. This includes both development activity based around client/server architectures and the ongoing management of distributed IT infrastructures.

Exhibit II-4 shows the forecast growth in the European outsourcing market separated into:

- Legacy system management, including datacentre management and the application maintenance management of legacy applications

- Client/server management, including distributed systems management and the development of new applications based on client/server architecture

- Business process outsourcing.

Exhibit II-4

Outsourcing Service Trends

15000

10000

Business Operations

Client/Server
Management

5000

Legacy System
Management

0

1995   2000

Source: INPUT
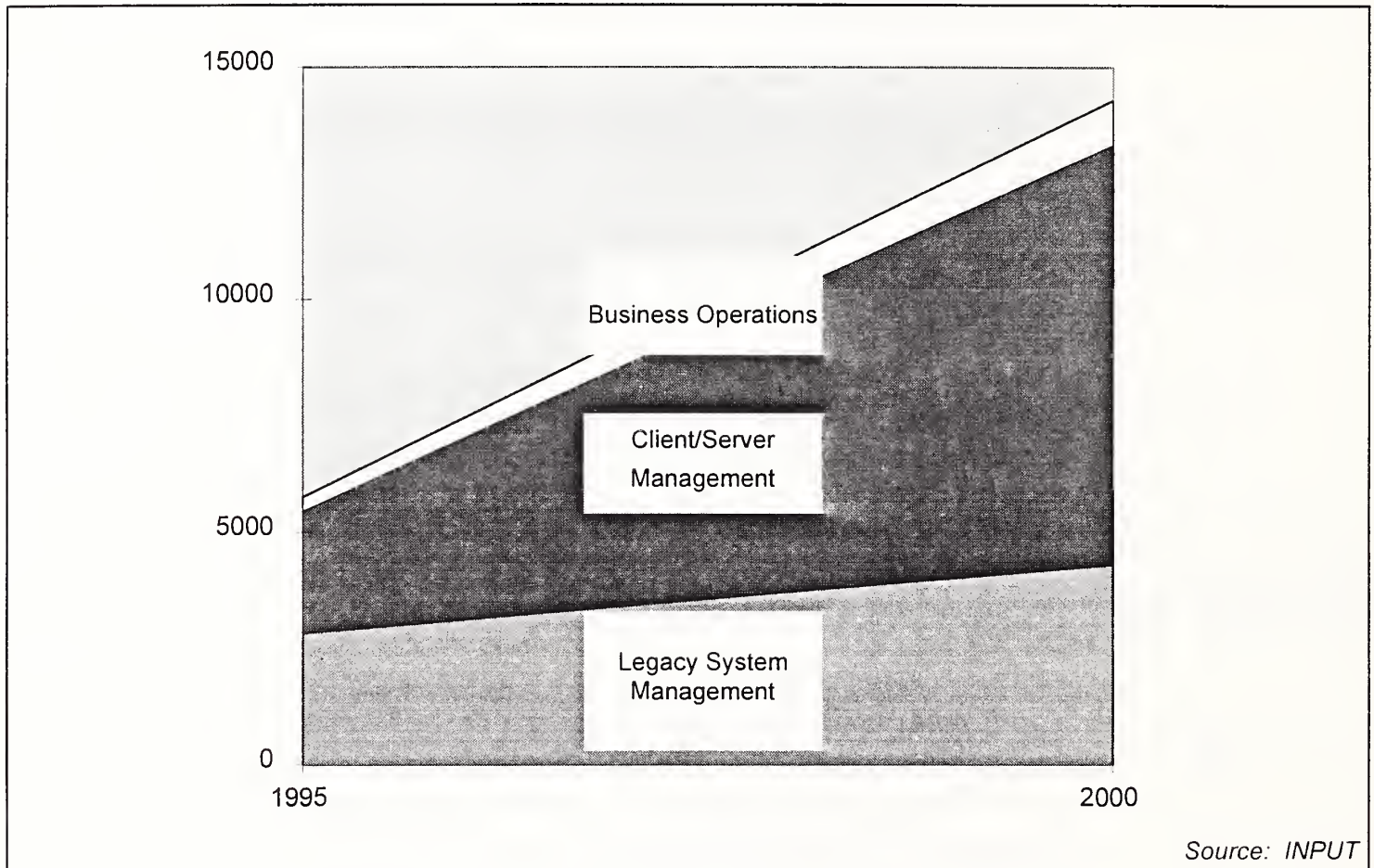
As a result of the changing nature of clients' motivations for outsourcing, legacy system management is forecast to grow much more slowly by (an average of 9% per annum) than outsourcing based around client/server system development and management (average annual growth 28% per annum). Between 1995 and 2000, the proportion of the European outsourcing market accounted for by legacy system management is forecast to decline from 50% to 30%, while the proportion related to client/server architectures will increase from 45% to 63%.

At the same time, there will be an increasing emphasis on new systems development within outsourcing contracts.

One of the major factors in the growth in the desktop services market is the increasing sophistication of the major vendors in managing this environment.

So far, few organisations have adopted desktop services outsourcing on the basis of reduced costs. Their motivations have principally been the difficulty associated with managing the desktop environment across

numerous geographically dispersed locations or their need to guarantee high service levels for critical business systems. As vendors develop their remote management capability, they will be in a stronger position to offer users improved service levels with real cost reductions.

Vendor remote management capability will become well-established over the next year, extending the scope of desktop services outsourcing, and making it a more appropriate option for large numbers of medium to large organisations.

Exhibit II-5 provides a forecast of the growth in the European outsourcing market by segment.

Exhibit II-5

Outsourcing Market Segments, Europe 1995-2000

Source: INPUT
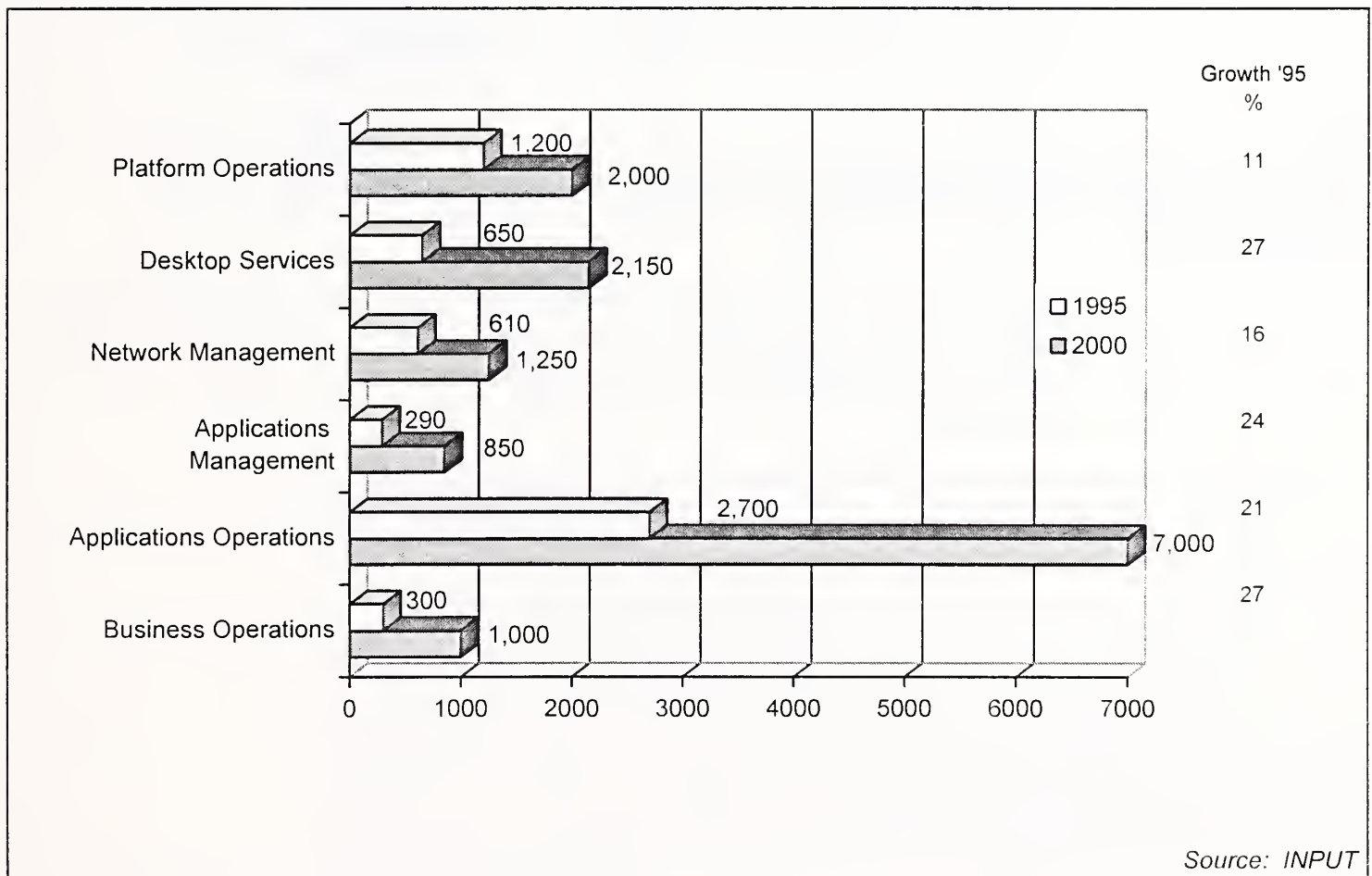
Desktop services outsourcing will, with business operations, show the highest growth rate over the next five years. After platform operations, network management is expected to show the slowest growth rate over the forecast period.

This is not because of a lack of demand. Indeed, the network infrastructures of many organisations are now out-of-date and in major need of technological refreshment. Often, they lack the throughput required to support the anticipated growth in network traffic over the next few years and have an inappropriate topology to support the organisations' emerging client/server architectures.

However, in the short-term, vendors will have difficulty in meeting this demand. In particular, they will struggle to demonstrate the specific international coverage required to meet the needs of major organisations, comprehensive support for both wide and local area networks, and their ability to supply technological refreshment for wide area networks within an acceptable timescale.

Accordingly, for the purposes of the outsourcing forecast, it has been assumed that there will be an interval of several years before the market for network management becomes widely established in Europe.

D

Insurance and Manufacturing Sectors Take Strategic Approach to Outsourcing

Exhibit II-6 provides a forecast for the European outsourcing market by industry sector. The forecasts shown in this exhibit include both business operations outsourcing and SAP outsourcing in addition to IS outsourcing.

Exhibit II-6

European Outsourcing Industry Sector Forecast

Growth '95 %

Sector	Growth '95 %
Manufacturing	16
Government	23
Financial Services	23
Distribution	17
Utilities	21
Transportation	22

Manufacturing: 2,150 (1995), 4,600 (2000)
Government: 1,350 (1995), 3,800 (2000)
Financial Services: 1,300 (1995), 3,600 (2000)
Distribution: 470 (1995), 1,050 (2000)
Utilities: 370 (1995), 950 (2000)
Transportation: 150 (1995), 400 (2000)

□ 1995
□ 2000

Source: INPUT
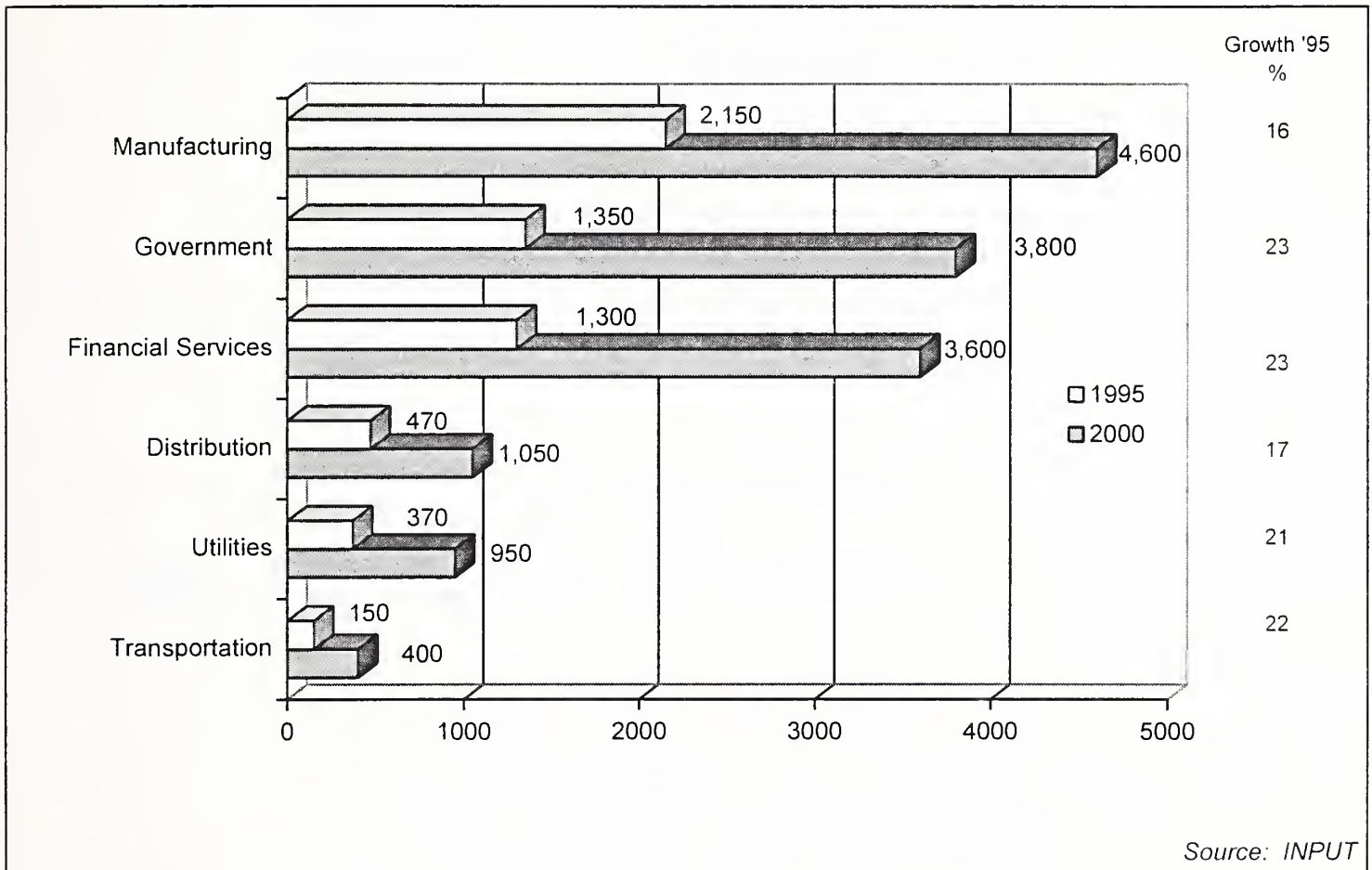
The manufacturing sector has always been at the forefront in the use of outsourcing in Europe, and is forecast to remain so over the forecast period. However, the nature of outsourcing in the manufacturing sector is now changing significantly in Europe, with a shift in emphasis from tactical to strategic outsourcing. Many of the early contracts in the manufacturing sector were primarily concerned with phasing out mainframe datacentres or reducing their cost.. While these are still important concerns within the sector, recent deals indicate an increasing willingness to outsource additional systems development functions and to seek external assistance in deriving organisational benefits from information technology.

At the present time, organisations in the discrete manufacturing sector typically hold their own internal IT capabilities in low esteem and appear to display the lowest commitment of any sector to maintaining their own in-house IT activity. Consequently, the demand for outsourcing will remain high in the manufacturing sector.

In the U.K., the public sector is now the biggest user of outsourcing. However, most of this demand has been the result of central government coercion rather than an inherent desire to adopt outsourcing from the departments and local authorities concerned. Nonetheless, this will remain a major growth area with the Public Finance Initiative producing major outsourcing opportunities for vendors in central government and the health service at least over the life of the present administration. Similarly, the deadlines for Compulsory Competitive Tendering in local government will lead to major growth in this sector. However, governments in countries such as France and Germany have so far not copied the U.K. in adopting similar measures. France may be the most likely of the two to do so in the short-term as a consequence of the recent presidential election.

The banking and finance sector still tends to have a much higher regard for IT as a core activity than does the manufacturing sector. Consequently the scope of outsourcing contracts within the banking sector has typically been much less than that in the manufacturing sector.

However, until recently, the insurance sector also appeared to regard IT as an activity best conducted in-house. However, the sector is now undergoing major change and this has resulted in a number of very large applications operations contracts in Europe within the last year. These contracts will have a major impact on the value of outsourcing revenues from the insurance sector in 1995.

In the U.K., much of the structural change in the utilities sector has already occurred, reducing the future new opportunities there. However, the utilities sector remains an area of potential high growth elsewhere in Europe.

Traditionally, outsourcing has been primarily a horizontal activity delivered with little differentiation from industry to industry. However, as reengineering begins to become a major driver for outsourcing, so vendors have begun to restructure their outsourcing activities along industry lines.

In addition, while all industry sectors are, to some extent at least, potential prospects for all types of outsourcing, some industry sectors are more advanced in their adoption of certain outsourcing services than others. Exhibit II-7 indicates the types of service that are especially favoured by each of a number of key industries.

Exhibit II-7

Key Opportunities by Industry Sector

Sector	Platform operations	Desktop services	Network management	Application management	Applications operations
Banking and Finance		X		X	
Insurance				X	X
Discrete manufacturing					X
Process manufacturing		X	X		
Retail distribution		X	X	X	
Wholesale distribution	X	X			
Transportation			X		X

Source: INPUT

For example, the banking and finance sector has so far shown a low propensity to outsource key datacentres but shows a comparatively high level of acceptance for desktop services outsourcing and the management of groups of applications.

At present, the insurance and discrete manufacturing sectors have the lowest regard for IT as a core in-house activity, and have a major need to become more effective in their use of IT. As a result, leading organisations in both of these sectors have recently entered into major applications operations contracts with outsourcing vendors.

At present, the organisations with the highest propensity to adopt desktop services and network management outsourcing are those with highly geographically dispersed operations such as the retail and process manufacturing sectors.

The initial business operations opportunities in Europe have occurred in the sectors that are most culturally attuned to outsourcing, namely the oil companies in the process manufacturing sector and the U.K. government.

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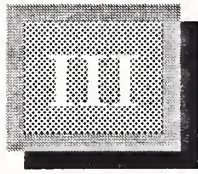
Europe — Outsourcing Growth Boosted by Changing Service Patterns

A

Desktop Services and Business Operations will have Highest Growth Rates

Exhibit III-1 forecasts the European IS outsourcing market by delivery mode over the period 1995-2000.

Exhibit III-1

IS Outsourcing, Europe 1995-2000

	Market Forecast (US$ millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	1050	14	1200	11	2000
Desktop Services	490	33	650	27	2150
Network Management	550	10	610	16	1250
Applications Management	230	25	290	24	850
Applications Operations	2080	31	2700	21	7000
Total IS Outsourcing	4400	24	5450	19	13300
Business Operations	200	50	300	27	1000
Total Outsourcing	4600	25	5750	20	14300
SAP Outsourcing	350	14	400	9	620

Source: INPUT

This chart provides a complete forecast for outsourcing including the business operations activity carried out by IT services vendors and SAP outsourcing activity. INPUT classifies traditional SAP R/2 outsourcing as a processing service, though this is changing as R/3 outsourcing emerges.

The following charts in this chapter exclude both business operations outsourcing and SAP outsourcing. A large part of the current business operations activity in Europe is currently concentrated in the U.K., particularly in the public sector, whereas SAP outsourcing is still primarily concentrated in Germany.

B

Outsourcing Growth Remains Strong Throughout Europe

Exhibit III-2 provides forecasts for the IS outsourcing market by country over the period 1995-2000. Neither business operations nor SAP outsourcing are included in the figures shown in this exhibit.

Exhibit III-2

IS Outsourcing Country Markets, Europe 1995-2000

	1994 ($m)	Growth 94-95 (%)	1995 ($m)	Growth 95-00 (%)	2000 ($m)
Europe	4400	24	5450	19	13300
France	1100	17	1300	18	2900
Germany	450	44	650	23	1800
UK	1450	27	1850	20	4500
Italy	320	29	415	20	1050
Sweden	330	20	400	19	930
Denmark	45	18	53	18	120
Norway	47	16	55	17	120
Finland	77	15	90	15	180
Netherlands	210	19	250	21	650
Belgium	110	17	125	18	290
Spain	90	16	110	19	250
Switzerland	90	18	110	21	280
Austria	26	15	30	19	70
Portugal	12	16	14	19	35
Greece	4	19	5	18	10
Ireland	15	20	18	18	42
Eastern Europe	23	31	30	21	80

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Growth rates for IS outsourcing are forecast to remain strong across Europe. There are no signs of demand slackening in the more mature markets such as the U.K. and France, and there is still a growing acceptance of the role of outsourcing in many of the less developed markets.

However, the service pattern varies somewhat from country to country. Typically, the more advanced outsourcing markets are seeing increasing emphasis on reengineering and desktop services, while outsourcing activity in the less mature markets is still primarily focused on cost reduction and facilitating transition between centralised and decentralised IT architectures.

Outsourcing revenues in Germany and Italy will increase significantly in 1995 as a result of major contracts signed in 1994.

C
Platform Operations Shows Declining Growth Rates

Exhibit III-3 provides forecasts for the platform operations market by country over the period 1995-2000.

Exhibit III-3

Platform Operations Country Markets, Europe 1995-2000

		Growth 94-95		Growth 95-00	
	1994 ($m)	(%)	1995 ($m)	(%)	2000 ($m)
Europe	1050	14	1200	11	2000
France	300	12	330	10	540
Germany	65	15	75	11	125
UK	345	12	390	9	600
Italy	70	15	82	11	140
Sweden	67	18	80	15	160
Denmark	10	15	11	12	20
Norway	13	15	15	12	27
Finland	23	15	27	12	47
Netherlands	46	17	55	14	105
Belgium	30	15	35	12	65
Spain	30	17	35	14	68
Switzerland	18	18	21	15	42
Austria	4	15	5	12	8
Portugal	3	18	3	15	6
Greece	1	18	1	15	2
Ireland	8	18	9	15	18
Eastern Europe	9	35	12	23	35

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

The platform operations market is driven by the desire to reduce the cost of running mainframe datacentres and by the need to phase out mainframes in favour of more distributed IT infrastructures.

These driving forces are being replaced in the more developed outsourcing markets by an emphasis on re-applying IT to the business. Consequently, the overall European growth in platforms is reducing and the growth rates are lowest in the more sophisticated outsourcing markets such as the U.K., France and Germany.

In addition, many organisations are consolidating their mainframe datacentres in-house, making the justification of outsourcing on cost reduction grounds a more difficult proposition for vendors.

D

Desktop Services — The New Face of IT Infrastructure Outsourcing

Exhibit III-4 provides forecasts for the desktop services market by country over the period 1995-2000.

Exhibit III-4

Desktop Services Country Markets, Europe 1995-2000

	1994 ($m)	Growth 94-95 (%)	1995 ($m)	Growth 95-00 (%)	2000 ($m)
Europe	500	33	650	27	2150
France	100	35	130	29	470
Germany	68	40	95	31	365
UK	135	30	175	24	500
Italy	40	35	55	28	185
Sweden	52	35	70	25	215
Denmark	9	30	12	25	35
Norway	7	30	10	25	30
Finland	5	30	7	22	20
Netherlands	40	35	55	28	185
Belgium	6	35	8	28	30
Spain	6	20	7	28	25
Switzerland	11	20	15	28	47
Austria	4	20	5	27	15
Portugal	2	20	2	27	8
Greece	0	20	0	27	1
Ireland	2	25	2	28	7
Eastern Europe	3	30	5	32	15

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   Source: INPUT

Desktop services is the new face of IT infrastructure outsourcing, which is just becoming established in Europe. So far, desktop services outsourcing has tended to be adopted only by organisations, such as merchant banks, with extremely critical applications running over LANs or by organisations with a large number of LANs spread over hundreds of sites, where the in-house IT support group has lacked the means to provide enterprise-wide support.

However, a number of vendors are now building pan-European, or global, desktop support infrastructures which will, over the next few years, enable them to offer comprehensive remote management of LANs and client/server infrastructures. In addition to the management of technical complexity on behalf of clients, this will lead to considerably reduced desktop support costs, which will provide a major boost to the desktop services outsourcing market.

Although the first contracts for desktop services outsourcing were signed in the U.K., desktop services outsourcing is now becoming rapidly established throughout Europe. The market for desktop services is already growing apace in the major countries, though it may take longer to become established in some of the smaller countries. In some of the smaller countries, desktop services will initially be inhibited by the absence of large corporations. Desktop services outsourcing currently requires a minimum critical mass of approximately 500 workstations, which makes it applicable mainly to medium to large organisations.

However, as vendors continue to build their expertise in remote systems management, remote management will become feasible for smaller numbers of workstations and, hence, smaller organisations.

E

Network Management Growth Restrained by Supplier Capability

Exhibit III-5 provides forecasts for the network management market by country over the period 1995-2000.

Exhibit III-5

Network Management Country Markets, Europe 1995-2000

		Growth 94-95		Growth 95-00	
	1994 ($m)	(%)	1995 ($m)	(%)	2000 ($m)
Europe	550	10	600	16	1250
France	160	10	175	17	380
Germany	120	10	130	14	250
UK	140	10	155	17	340
Italy	37	10	40	14	78
Sweden	20	10	22	17	48
Denmark	4	10	4	14	8
Norway	4	10	5	14	10
Finland	8	10	9	14	17
Netherlands	17	10	20	14	35
Belgium	5	10	5	17	11
Spain	22	10	25	17	53
Switzerland	8	10	9	14	18
Austria	4	10	5	14	10
Portugal	1	10	1	14	2
Greece	1	10	1	14	1
Ireland	2	10	2	14	3
Eastern Europe	3	10	3	17	7

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

There is currently a strong need for network management in Europe. Many organisations are now facing a similar situation in wide area networks to that which they faced in their datacentres five to ten years ago. In particular, many corporate data networks lack the throughput required to support interconnected LANs and new technologies such as multimedia. They are also implemented in inappropriate topologies for support of client/server infrastructures and in legacy technologies.

Accordingly, many organisations would ideally like to replace their existing networks with a more flexible and appropriate form of network support. Unfortunately, this is difficult for them to achieve, since services that would satisfy this demand are not extensively available in Europe.

Extensive outsourcing of wide area networks in Europe requires vendors to establish flexible pan-European networks based on technologies such as ATM. Accordingly, the growth in the network management market will be delayed, not by the potential demand, but by vendor capability. Network management will become more quickly established in the more deregulated markets in Europe and will be slower to take off in countries such as Germany.

However, the potential demand for WAN outsourcing is very strong. Indeed, many users would like to appoint a single vendor to provide management of their combined LAN and WAN infrastructures.

F

Application Management Shows High Growth in Major Economies

Exhibit III-6 provides forecasts for the application management market by country over the period 1995-2000.

Exhibit III-6

Application Management Country Markets, Europe 1995-2000

	1994 ($m)	Growth 94-95 (%)	1995 ($m)	Growth 95-00 (%)	2000 ($m)
Europe	230	25	290	24	850
France	50	35	65	26	210
Germany	20	35	30	26	90
UK	70	30	92	24	270
Italy	20	10	20	20	50
Sweden	20	10	22	21	55
Denmark	4	10	5	20	10
Norway	4	10	4	20	10
Finland	1	10	2	20	4
Netherlands	25	20	30	27	100
Belgium	3	15	4	26	11
Spain	5	10	6	21	15
Switzerland	5	10	5	20	12
Austria	2	10	2	21	5
Portugal	3	10	3	20	8

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

A number of vendors such as FI Group and Hoskyns in the U.K. have offered application management as a separate service for several years. However, while these vendors have shown high levels of growth in these activities, many vendors have been slow to realise the potential of application management.

Application management is expected to show very high levels of growth over the forecast period for two reasons:

- Firstly, in-house IT departments are facing considerable pressure to focus on improving their organisation's use of IT, rather than focusing on the support of existing systems. The latter is clearly not an area of strategic importance for the organisation and can be outsourced to an external partner. When such activities are outsourced, users often discover both cost savings and an improvement in application-related service levels

- Secondly, the technologies and mechanisms by which new systems are developed and implemented are changing rapidly. Even though an internal IT department may be the appropriate organisation to assist users in the identification of new applications, they may not be the most appropriate organisation to rapidly design and implement the system.

Application management is now spreading from the U.K. to the other major countries in Europe, strongly promoted by Cap Gemini Sogeti. This is encouraging other national systems houses to follow suit.

G

Applications Operations Boosted by Increasing Emphasis on Reengineering

Exhibit III-7 provides forecasts for the applications operations market by country over the period 1995-2000.

Exhibit III-7

Applications Operations Country Markets, Europe 1995-2000

	1994 ($m)	Growth 94-95 (%)	1995 ($m)	Growth 95-00 (%)	2000 ($m)
Europe	2100	31	2700	21	7000
France	490	18	575	17	1300
Germany	180	80	320	25	970
UK	770	35	1035	22	2800
Italy	155	40	215	22	580
Sweden	170	20	200	18	450
Denmark	18	15	21	16	45
Norway	18	15	21	16	45
Finland	40	15	45	16	95
Netherlands	80	15	93	19	220
Belgium	63	15	72	19	170
Spain	28	20	35	22	90
Switzerland	50	20	60	22	160
Austria	11	20	13	19	30
Portugal	4	20	5	19	10
Greece	2	20	3	19	6
Ireland	5	20	6	19	13
Eastern Europe	8	35	10	15	22

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

The applications operations market will continue to grow rapidly over the forecast period. Some of this growth is at the expense of the platform operations market, as the principal drivers of IS outsourcing in Europe shift from factors overwhelmingly concerned with cost reduction to factors related to improving the effectiveness with which IT is applied in support of business goals.

A significant number of large applications operations contracts of this type have been awarded recently, including the EDS contract with INA and the IBM Systeme-und Netze contract with Gothaer Versicherungen AG. These contracts will have an immediate impact on the growth rate of applications operations revenues in Italy and Germany respectively.

IV
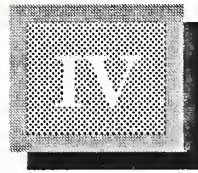
Industry Sector Analysis

Section A of this chapter contains a forecast of the European outsourcing market by industry sector. Sections B - H contain discussions of the business pressures and outsourcing trends within a number of key industry sectors.

A

Industry Sector Forecast — Europe

Exhibit IV-1 provides a forecast for the European outsourcing market by industry.

Exhibit IV-1

Industry Sector Breakdown, Europe 1995-2000

	Europe $m 1994	Growth 94-95 %	Europe $m 1995	Growth 95-00 %	Europe $m 1999
Government	1050	29	1350	23	3800
-Local	450	22	550	25	1700
-Central	430	51	650	23	1800
Manufacturing	1850	16	2150	16	4600
-Discrete	1150	13	1300	15	2600
-Process	700	21	850	19	2000
Financial Services	1050	24	1300	23	3600
-Banking & Finance	650	18	770	23	2150
-Insurance	400	33	530	22	1450
Distribution	420	12	470	17	1050
Transportation	100	50	150	22	400
Utilities	330	12	370	21	950
Other	200	55	310	14	600
Total Outsourcing	5000	24	6100	19	15000

Source: INPUT

The manufacturing sector has been at the forefront of the adoption of outsourcing in Europe and is generally one of the key sectors when outsourcing begins in each country. Despite its role in the vanguard of outsourcing, there are no signs of a major slackening of growth in the manufacturing sector. In fact, the nature of outsourcing within the manufacturing sector appears to be changing from the tactical, short-term use of outsourcing to assist architectural migrations to a more strategic use of outsourcing. This change in attitude is resulting in major applications operations contracts being awarded by some of the larger manufacturing groups.

The financial services sector has been reluctant to adopt outsourcing to the same degree. However, the sector has now begun to use outsourcing tactically to support the management of its desktop services and networks. In addition, there are signs that the sector is on the verge of accepting a more strategic role for outsourcing. The insurance sector is now facing major structural change and high levels of competitive pressure. Consequently, during the last year, several large insurance companies have awarded major applications operations contracts. This trend is forecast to continue.

Outsourcing in the government sector has grown very rapidly in the U.K. over the past two years, with the central government outsourcing market now larger than that in local government. This trend will continue strongly during 1995 with a strong emphasis on the Private Finance Initiative. Governments in France and Germany have yet to adopt similar philosophies and approaches. In the short-term, following the change of government, significant opportunities are more likely to arise in France than in Germany.

B

Banking and Finance — IT Still Regarded as Core Business Activity

Exhibit IV-2 lists the principal business pressures on the European banking and finance sector, and Exhibit IV-3 identifies key areas for action in this sector.

Exhibit IV-2

Principal Business Pressures: Banking and Finance

Business Pressure	Extent
Need to improve customer service levels	4.4
Need for improved interworking with major customers	4.2
Need for improved international coverage	4.1
Need for improved support of international activities	4.0
Need to speed up introduction of new models/services	3.2
Need to introduce new models/services	3.2
Cost competition	3.1
Competition for distribution channels	2.8
Need for improved partnerships with major suppliers	1.6
Product obsolescence	1.5

1 — None   2   3 — Extent of pressure   4   5 — Very strong

Sample of 17 respondents. Standard error = 0.3   *Source: INPUT*

Exhibit IV-3

Key Actions: Banking and Finance

OSMR

Key Action	Rating
Improve customer service	4.6
Increase core business focus	4.5
Become more efficient	4.1
Increase speed of introduction of products/services	3.3
Outsource inadequately performed core activities	3.0
Continue to reduce cost of business processes	2.9
Undergo major restructuring or downsizing	2.7
Increase flexibility of business processes	2.7
Reduce internal headcount	2.6
Improve effectiveness of business processes	2.5
Outsource non-core activities	2.4

Scale: 1 (None) — 2 — 3 (Need for action) — 4 — 5 (Very strong)

Sample of 17 respondents. Standard error = 0.3   *Source: INPUT*

Overall, there is widespread recognition of an increase in competition in the banking sector. Some of this competition is coming from new players moving into financial services and from foreign institutions. Financial institutions are increasingly seeking to expand their international activities.

While there is a recognition of the need for improved cost-effectiveness of service delivery in the banking and finance sector, the principal focus is on the need to improve customer service. Accordingly, many banking

organisations wish to use information technology primarily to strengthen their service provision and their relationships with major clients rather than reduce internal costs.

Another major theme in the banking sector is the desirability of using IT to introduce new services. However, a number of organisations have historically found IT to be an impediment rather than a facilitator in this respect.

The most important IT challenges facing organisations in the banking and finance sector are listed in Exhibit IV-4 and the least important challenges in Exhibit IV-5.

Exhibit IV-4

Most Important IT Challenges: Banking & Finance

Challenge	Importance
To increase its effectiveness in applying IT to the business	4.6
To aggressively use IT for competitive advantage	4.4
To become more cost-effective in its use of IT	4.3
To increase its use of IT	4.1
To improve international IT coordination	3.9

1 — Not at all important   Importance   5 — Very important
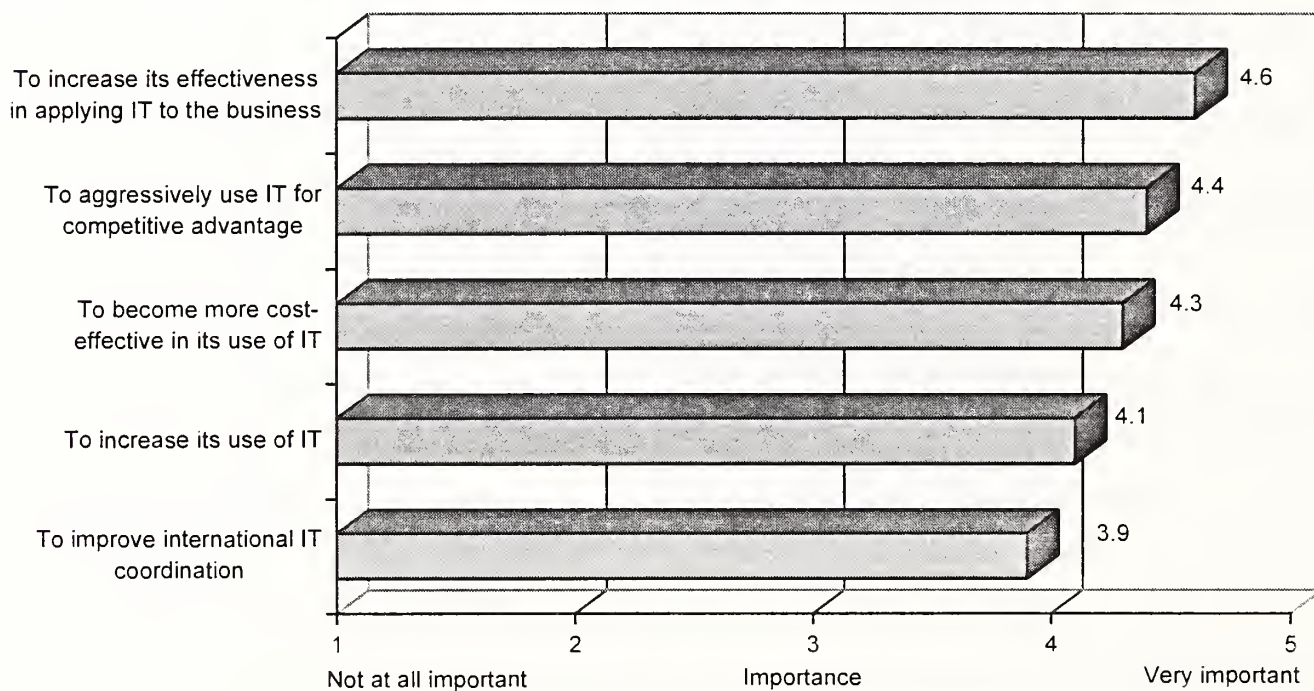
Sample of 17 respondents. Standard error = 0.2

Source: INPUT

Exhibit IV-5

Least Important IT Challenges: Banking & Finance

To reduce its expenditure on IT — 2.2

To improve support for operational systems — 2.4

To replace existing mainframe-based systems — 2.6

To fundamentally change its IT architecture — 2.6

To improve the focus of the IT department — 3.4

1 — Not at all important   2   3 — Importance   4   5 — Very important
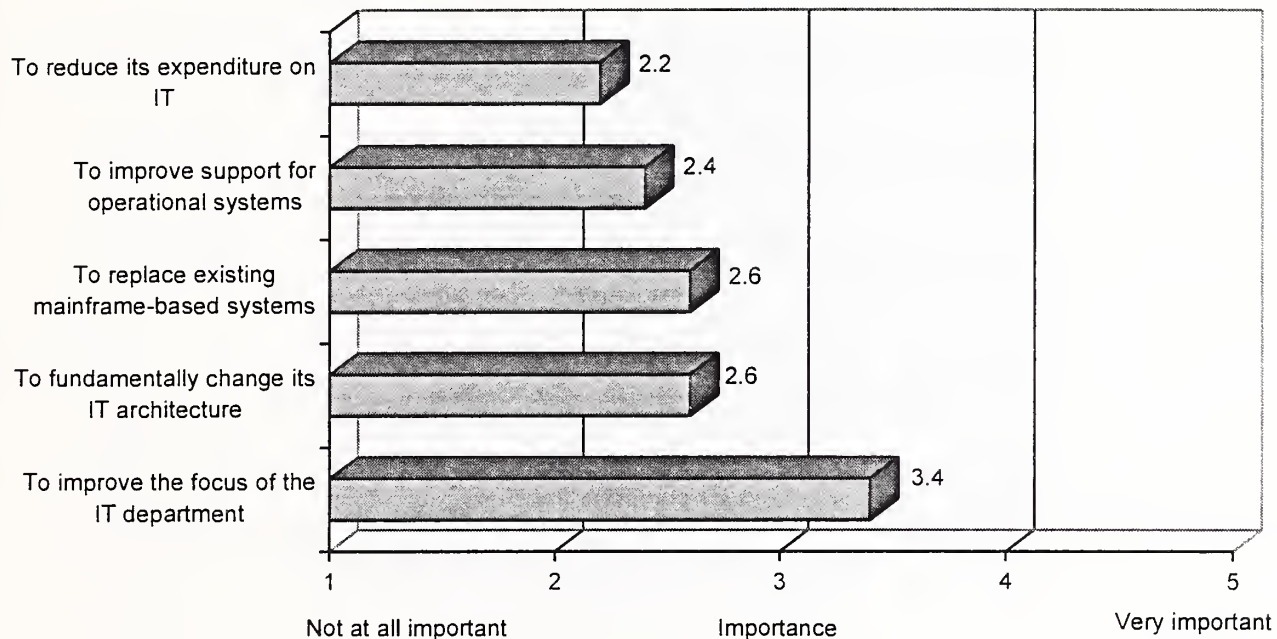
Sample of 17 respondents. Standard error = 0.3   *Source: INPUT*

These exhibits indicate that the major challenge facing organisations in the banking sector is the need to apply IT proactively in support of an organisation's business development goals.

Exhibit IV-6 lists the most satisfactory attributes of IT departments belonging to organisations in the banking sector and Exhibit IV-7 lists their least satisfactory attributes.

Exhibit IV-6

Areas of Highest Satisfaction: Banking & Finance

Business orientation & understanding — 4.2
Understanding of new technologies — 3.9
Pro-active support for the business — 3.7
End-user support — 3.6
Focus on systems provision not operations support — 3.3

Low 1 2 3 4 5 High
Level of satisfaction
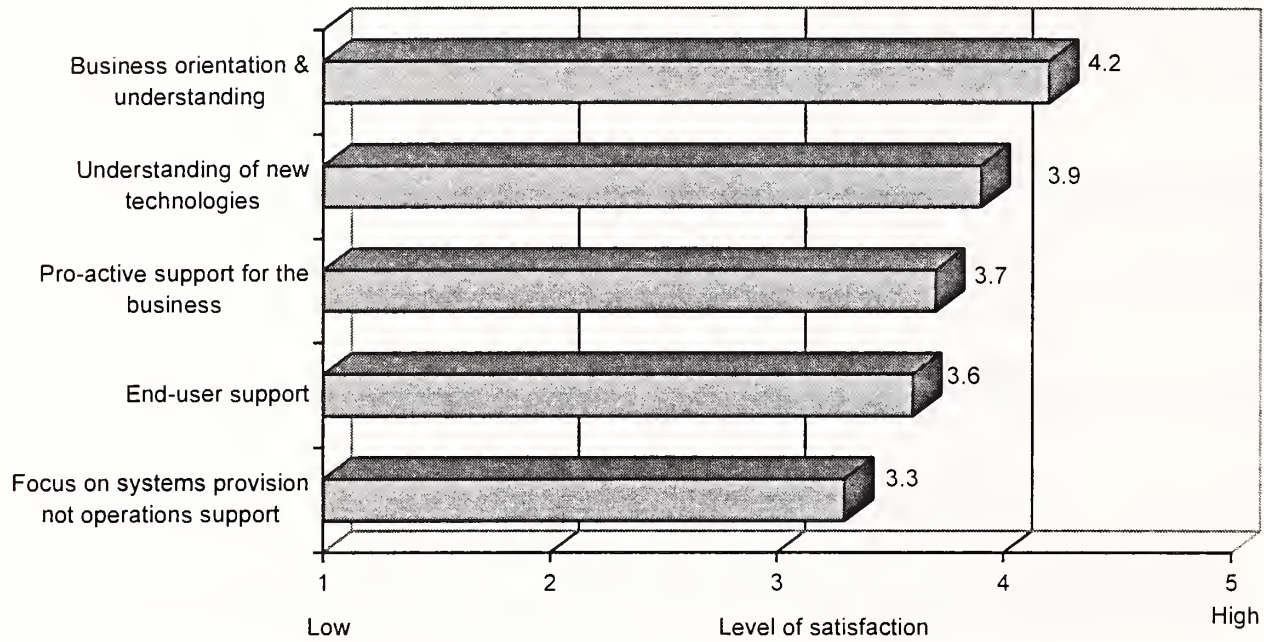
Sample of 17 respondents. Standard error = 0.3

Source: INPUT

Exhibit IV-7

Areas of Lowest Satisfaction: Banking & Finance
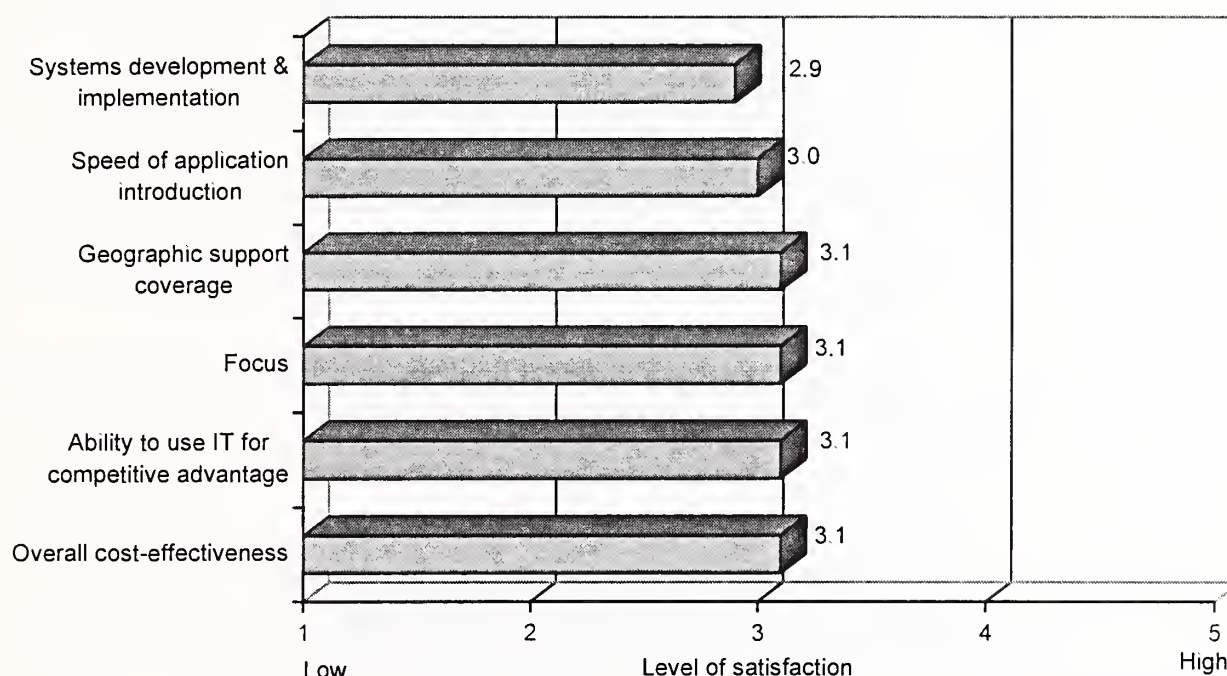
Sample of 17 respondents. Standard error = 0.3   Source: INPUT

Overall, the IT departments within banking institutions are perceived to combine a high level of business understanding with a strong knowledge of new technology. While there remains scope to improve the cost-effectiveness of IT departments, their major failings are the time taken to develop and implement new applications and their comparative focus on head office.

The principal opportunities created for outsourcing vendors are services that enable the client to implement systems more rapidly and in a manner which extends their geographic support. Accordingly, the major growth areas in the banking and finance sector will remain applications management and client/server systems management.

Applications management services offer two potential key benefits to the banking sector:

- Firstly, application maintenance management enables organisations to subcontract ongoing support for current applications with the result that a higher proportion of internal resources can be dedicated to new systems development and implementation

● Secondly, as vendors move to using rapid development methodologies and build up libraries of re-usable objects for specific applications, banking institutions will increasingly hand over responsibility for development and implementation to external vendors. The in-house IT department will focus more of its energy on identifying key opportunities for the deployment of IT.

Banking organisations will require client/server systems management support to assist them in managing their geographical complexity. This need will increase in importance as financial institutions extend their services outside their own countries of origin and will encompass both desktop services and wide area network management.

Exhibit IV-8 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-8

Importance vs. Satisfaction with IT Functions Performed In-house

Function	Importance	Satisfaction	Difference
New system development	4.4	3.4	1.0
Support of branch locations	3.8	3.2	0.6
Provision and support for wide area connectivity	3.8	3.3	0.5
Day-to-day support of the desktop environment	3.7	3.3	0.4
Day-to-day support of LANs	3.7	3.4	0.3
Application selection and integration	4.2	3.9	0.3
Maintenance of well-established applications	3.8	3.8	0.0
Day-to-day operation of datacentres	3.9	4.0	-0.1

Source: INPUT

This again confirms that the major issues within the banking and finance sector are new system development and the support of distributed IT infrastructures.

However, at present, many organisations remain to be convinced that the use of an external supplier is an appropriate solution to their problems in supporting distributed infrastructures. Exhibit IV-9 indicates the relative extent to which managers perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-9

Perceived Necessity of Performing Function In-house

OSMR

Function	Value
Day-to-day operation of datacentres	2.8
Maintenance of well-established applications	3.3
New system development	3.3
Application selection and integration	3.4
Day-to-day support of LANs	3.4
Provision and support for wide area connectivity	3.6
Day-to-day support of the desktop environment	3.6
Support of branch locations	3.8

1 Low
2
3
4
5 High

Necessity of Performing In-house
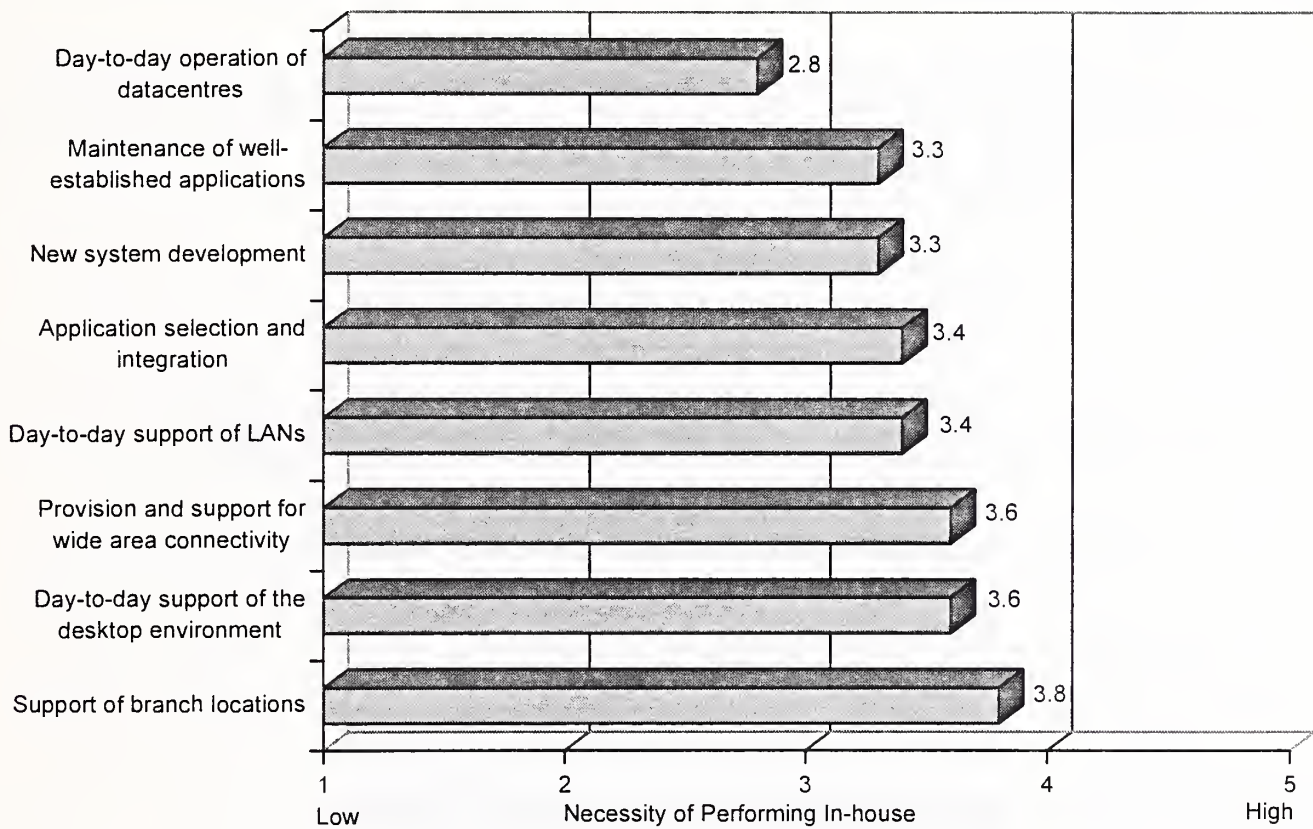
Sample of 17 respondents. Standard error = 0.3   *Source: INPUT*

In the banking and finance sector, many organisations would be prepared to outsource the management of their mainframe datacentres but are generally satisfied with their in-house management. On the other hand, they are comparatively dissatisfied with the management of their distributed architectures but frequently wish to retain this activity in-house.

C

Insurance — Restructuring Creates Major Applications Operations Opportunities

Exhibit IV-10 lists the principal business pressures on the European insurance sector, and Exhibit IV-11 identifies key areas for action in this sector.

Exhibit IV-10

Principal Business Pressures: Insurance

Business Pressure	Extent of pressure
Need to improve customer service levels	4.0
Cost competition	3.8
Need to introduce new models/services	3.6
Competition for distribution channels	3.5
Need to speed up introduction of new models/services	3.4
Need for improved international coverage	3.2
Need for improved interworking with major customers	3.0
Need for improved support of international activities	2.8
Product obsolescence	2.3
Need for improved partnerships with major suppliers	1.5

1 None   2   3 Extent of pressure   4   5 Very strong

Sample of 6 respondents. Standard error = 0.5   *Source: INPUT*

Exhibit IV-11

Key Actions: Insurance

Sample of 6 respondents. Standard error = 0.5   Source: INPUT

The insurance sector has a major need to improve customer service levels in common with the banking and finance sector. However, in other respects the major business pressures faced by the insurance sector are quite different from those faced by the banking and finance sector.

With the advent of direct selling and heavily automated competitors, much of the traditional insurance sector is experiencing considerable cost pressure and a need to introduce more competitive services and means of delivery. Overall, the insurance sector shows the highest level of need of any of the industry sectors to introduce new products and services and to reduce the lead times for their introduction.

This is likely to involve major restructuring of the industry and create major opportunities for both IT and business process outsourcing vendors.

The most important IT challenges facing organisations in the insurance sector are listed in Exhibit IV-12 and the least important challenges in Exhibit IV-13.

Exhibit IV-12

Most Important IT Challenges: Insurance

To increase its effectiveness in applying IT to the business — 4.5

To adopt a more distributed IT infrastructure — 4.3

To improve the focus of the IT department — 4.0

To become more cost-effective in its use of IT — 3.8

To increase its use of IT — 3.8

To aggressively use IT for competitive advantage — 3.8

| 1 | 2 | 3 | 4 | 5 |

Not at all important   Importance   Very important
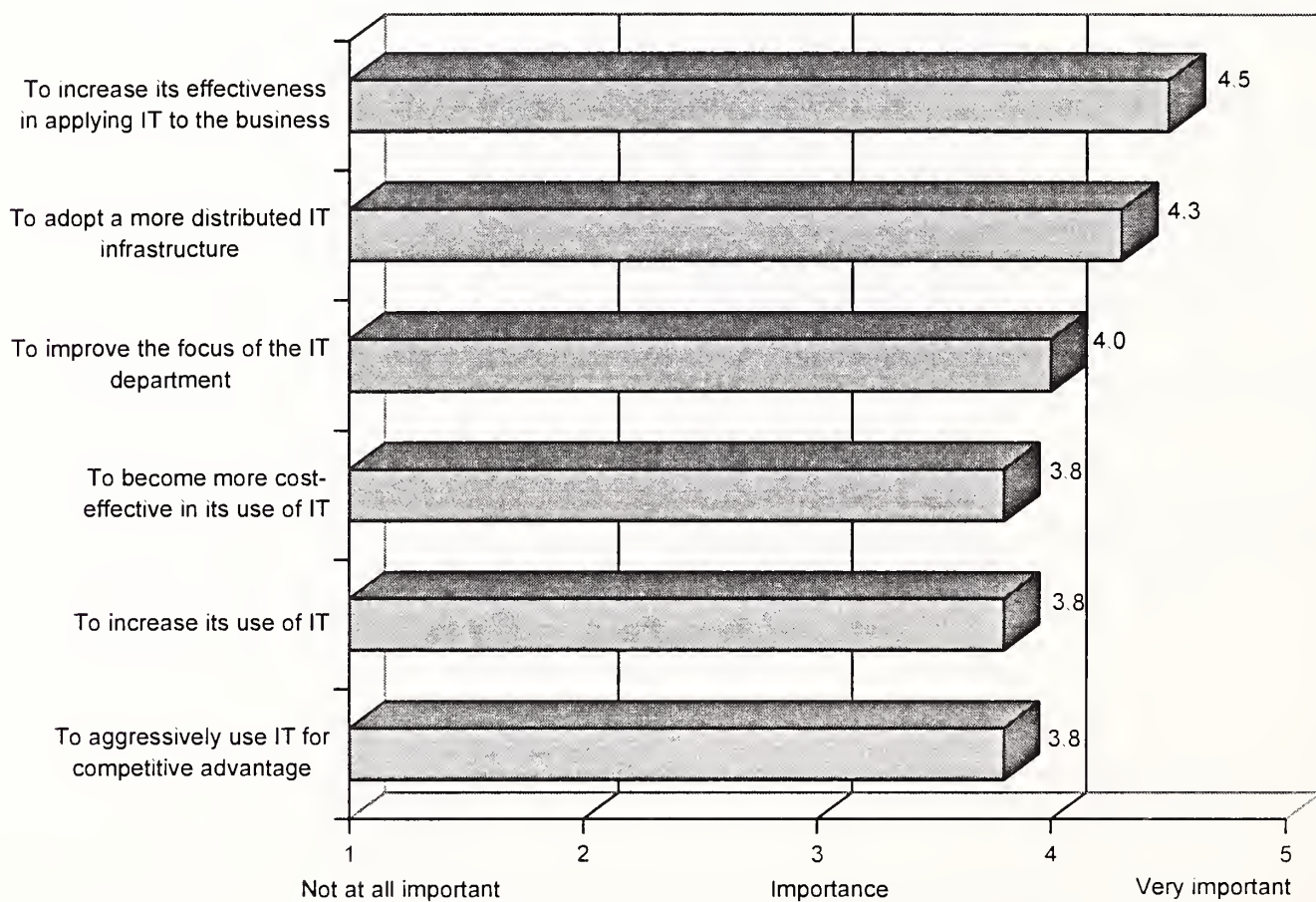
Sample of 6 respondents. Standard error 0.5   *Source: INPUT*

Exhibit IV-13

Least Important IT Challenges: Insurance
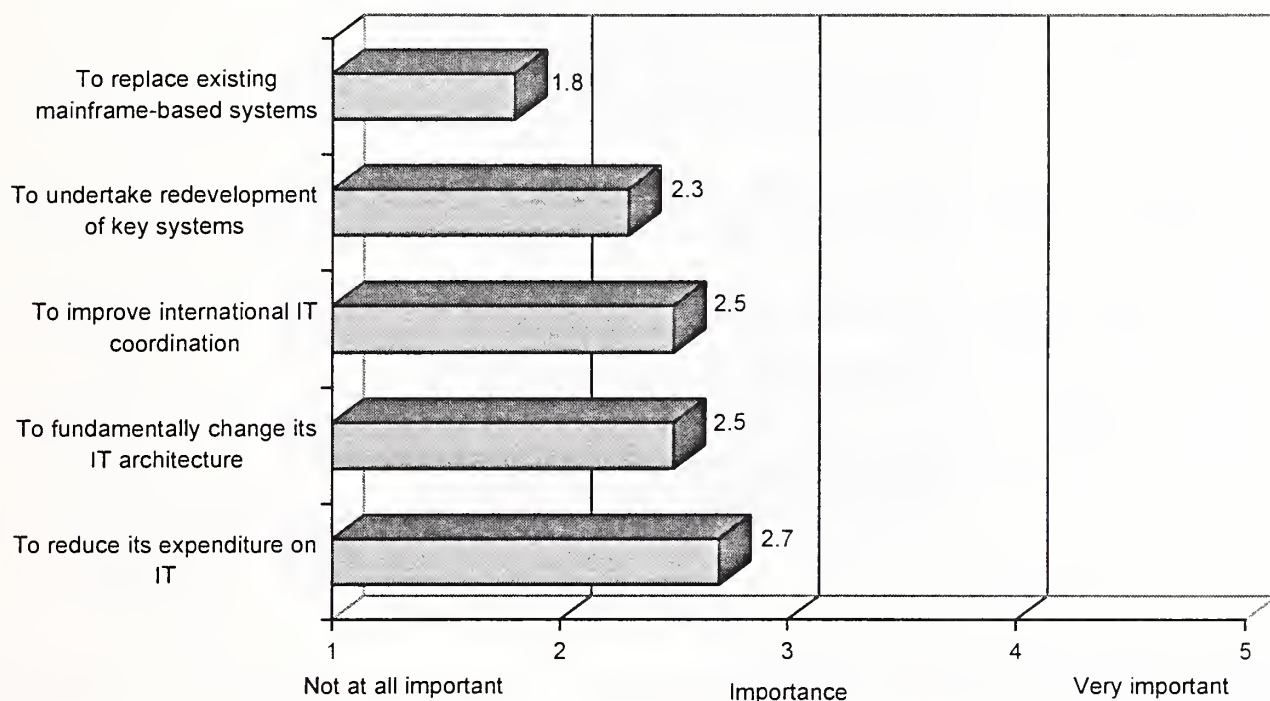
Sample of 6 respondents. Standard error = 0.5   Source: INPUT

Within the insurance sector, there is a continuing emphasis on interoperability. This includes linking legacy systems and providing greater flexibility through use of LANs. Most assurance products have lengthy lifetimes and so many insurance companies will be dependent on their legacy systems for many years. As a result, the insurance sector has been comparatively slow to move to more distributed IT architectures. It is probable that organisations in the insurance sector will typically retain their mainframes but will increasingly supplement their mainframe-based systems with more distributed applications.

The existing legacy applications will increasingly be subject to application maintenance management contracts as organisations endeavour to refocus their internal IT departments on improving the application of IT to the business and providing improved support for new business opportunities.

Exhibit IV-14 lists the most satisfactory attributes of IT departments belonging to organisations in the insurance sector and Exhibit IV-15 lists their least satisfactory attributes.

Exhibit IV-14

Areas of Highest Satisfaction: Insurance

Horizontal bar chart. Level of satisfaction from 1 (Low) to 5 (High).

Category	Value
Pro-active support for the business	3.7
End-user support	3.5
Effectiveness in applying IT to the business	3.5
Ability to support business process	3.5
Business orientation & understanding	3.5
Overall cost-effectiveness	3.5

Sample of 6 respondents. Standard error = 0.5   *Source: INPUT*

OSMR
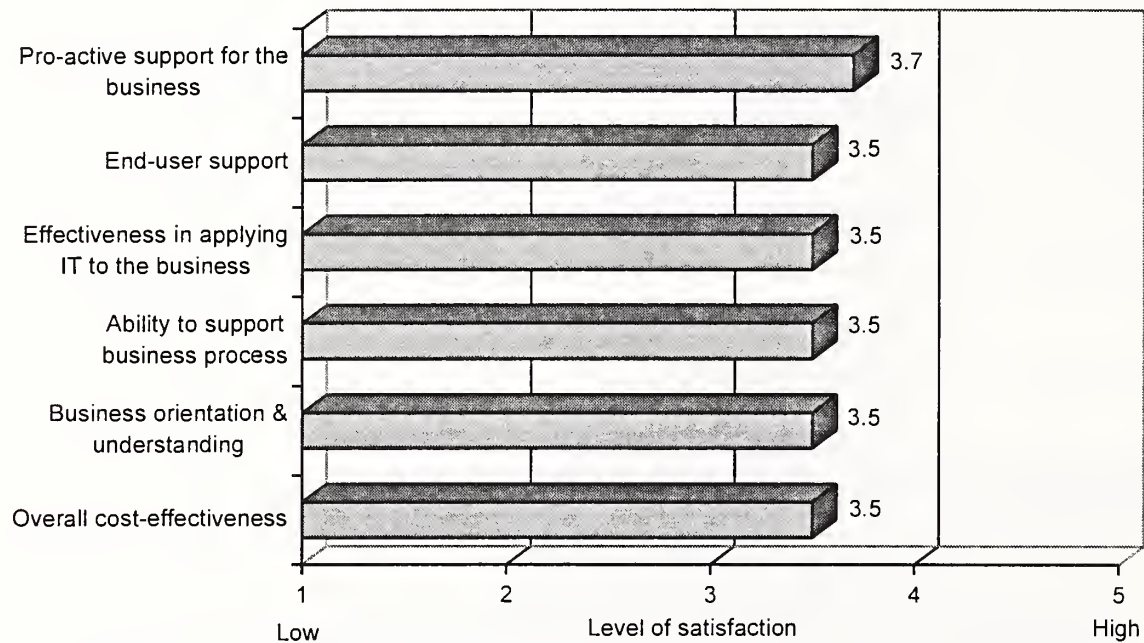
Exhibit IV-15

Areas of Lowest Satisfaction: Insurance
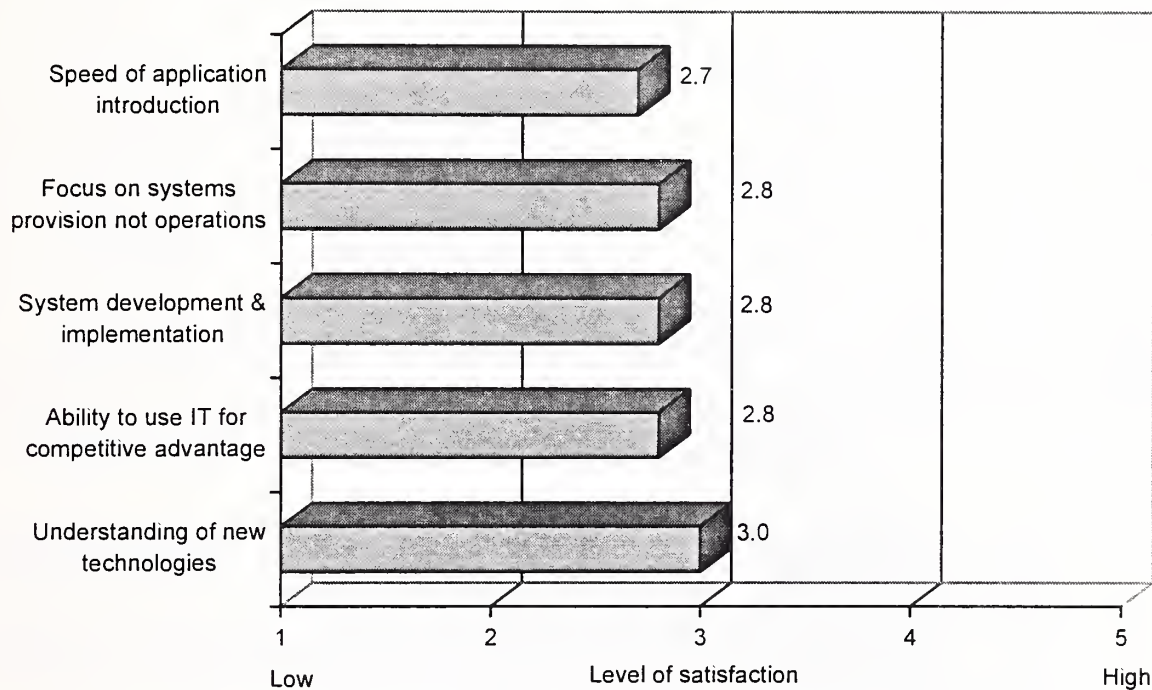
Sample of 6 respondents. Standard error = 0.5   Source: INPUT

Overall, the IT departments within insurance companies are perceived to be reasonably effective in applying IT to business problems but lack the strong knowledge of new technology found in the banking sector. In addition, IT departments are seen to focus excessively on operations support and take too long to develop and implement new applications.

This weakness in new system development, coupled with an inadequate understanding of new technologies, means that IT departments in insurance companies are particularly vulnerable to applications operations contracts. Many major insurance companies are candidates for major systems integration or application operations outsourcing contracts with vendors offering considerable business reengineering capability and knowledge of best practice in the insurance sector. Examples of organisations that have undertaken such contracts include INA with EDS, Marsh & McLennan with Andersen Consulting, and Gothaer Versicherungen AG with IBM Systeme und Netze.

Exhibit IV-16 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-16
Importance vs. Satisfaction with IT Functions Performed In-house

Function	Importance	Satisfaction	Difference
Application selection and integration	4.0	3.2	0.8
New system development	3.4	2.8	0.6
Provision and support for wide area connectivity	3.7	3.5	0.2
Day-to-day support of LANs	3.5	3.5	0.0
Day-to-day support of the desktop environment	3.3	3.3	0.0
Support of branch locations	2.8	3.2	-0.4
Maintenance of well-established applications	3.0	3.5	-0.5
Day-to-day operation of datacentres	3.2	3.8	-0.6

Source: INPUT

This again emphasises that the introduction of new systems is the major challenge facing the insurance sector. At the same time, the integration of new applications with existing systems is a cause of concern. On the other hand, the level of in-house support for legacy systems is perceived to be quite adequate.

Exhibit IV-17 indicates the relative extent to which managers perceive it to be necessary to perform each of the IT functions in-house.

Exhibit IV-17

Perceived Necessity of Performing Function In-house

OSMR

Function	Value
New systems development	2.0
Application selection and integration	2.2
Provision and support for wide area connectivity	2.8
Day-to-day support of the desktop environment	3.2
Day-to-day support of LANs	3.4
Support of branch locations	3.5
Day-to-day operation of datacentres	3.6
Maintenance of well-established applications	3.8

1 — Low
2
3 — Necessity of performing In-house
4
5 — High

Sample of 6 respondents. Standard error = 0.5   *Source: INPUT*

The insurance sector shows an unusual pattern here. The sector is probably unique in its desire to retain the management of datacentres and the maintenance of legacy applications in-house while, simultaneously, being prepared to extensively involve external vendors in the selection, development and integration of new applications.

Overall the insurance sector is currently an area of very high potential for outsourcing vendors. Major changes are occurring in the structure of the industry and organisations need to decide their response. In some cases, organisations will decide to withdraw from the life assurance market. However, even after the decision to stop selling policies has been

taken, there remains the existing portfolio which may need to be managed for up to 25 years. Many vendors will decide to outsource this now non-core activity, either as a business operations contract or as phase-out systems management contract. A number of vendors are beginning to target the former type of opportunity and Hoskyns has already been awarded a systems management contract of this type by Hill Samuel.

D
Discrete Manufacturing — IT Not Perceived as a Core In-house Activity

Exhibit IV-18 lists the principal business pressures on the European discrete manufacturing sector, and Exhibit IV-19 identifies key areas for action in this sector.

Exhibit IV-18

Principal Business Pressures: Discrete Manufacturing

Category	Value
Need for improved partnerships with major suppliers	3.5
Need for improved interworking with major customers	3.5
Need to introduce new models/services	3.5
Need to improve customer service levels	3.4
Competition for distribution channels	3.4
Need for improved international coverage	3.3
Cost competition	3.3
Need to speed up introduction of new models/services	3.1
Need for improved support of international activities	3.0
Product obsolescence	2.7

Axis: 1 (None) — 2 — 3 — 4 — 5 (Very strong)

Extent of pressure

Sample of 23 respondents. Standard error = 0.3　　　　*Source: INPUT*

Exhibit IV-19

Key Actions: Discrete Manufacturing

Action	Value
Become more efficient	4.3
Increase flexibility of business processes	4.1
Continue to reduce cost of business processes	3.8
Improve customer service	3.7
Improve effectiveness of business processes	3.5
Increase speed of introduction of products/services	3.3
Increase core business focus	3.2
Outsource inadequately performed core activities	2.9
Outsource non-core activities	2.8
Undergo major restructuring or downsizing	2.6
Reduce internal headcount	2.2

Scale: 1 None — 2 — 3 Need for action — 4 — 5 Very strong

Sample of 23 respondents. Standard error = 0.3   *Source: INPUT*

Organisations in the discrete manufacturing sector currently place considerable emphasis on electronic commerce and improving their ability to work closely with both suppliers and customers. Information technology is perceived as a key enabler in facilitating the sharing of information with both customers and suppliers.

In addition, discrete manufacturing companies in Europe still face considerable cost pressure from foreign companies and strongly perceive the need to reduce their costs.

The most important IT challenges facing organisations in the discrete manufacturing sector are listed in Exhibit IV-20 and the least important challenges in Exhibit IV-21.

Exhibit IV-20

Most Important IT Challenges: Discrete Manufacturing

To increase its effectiveness in applying IT to the business — 4.5

To become more cost-effective in its use of IT — 4.3

To aggressively use IT for competitive advantage — 4.3

To adopt a more distributed IT infrastructure — 3.7

To improve the focus of the IT department — 3.6

| 1 | 2 | 3 | 4 | 5 |
| Not at all important | | Importance | | Very important |
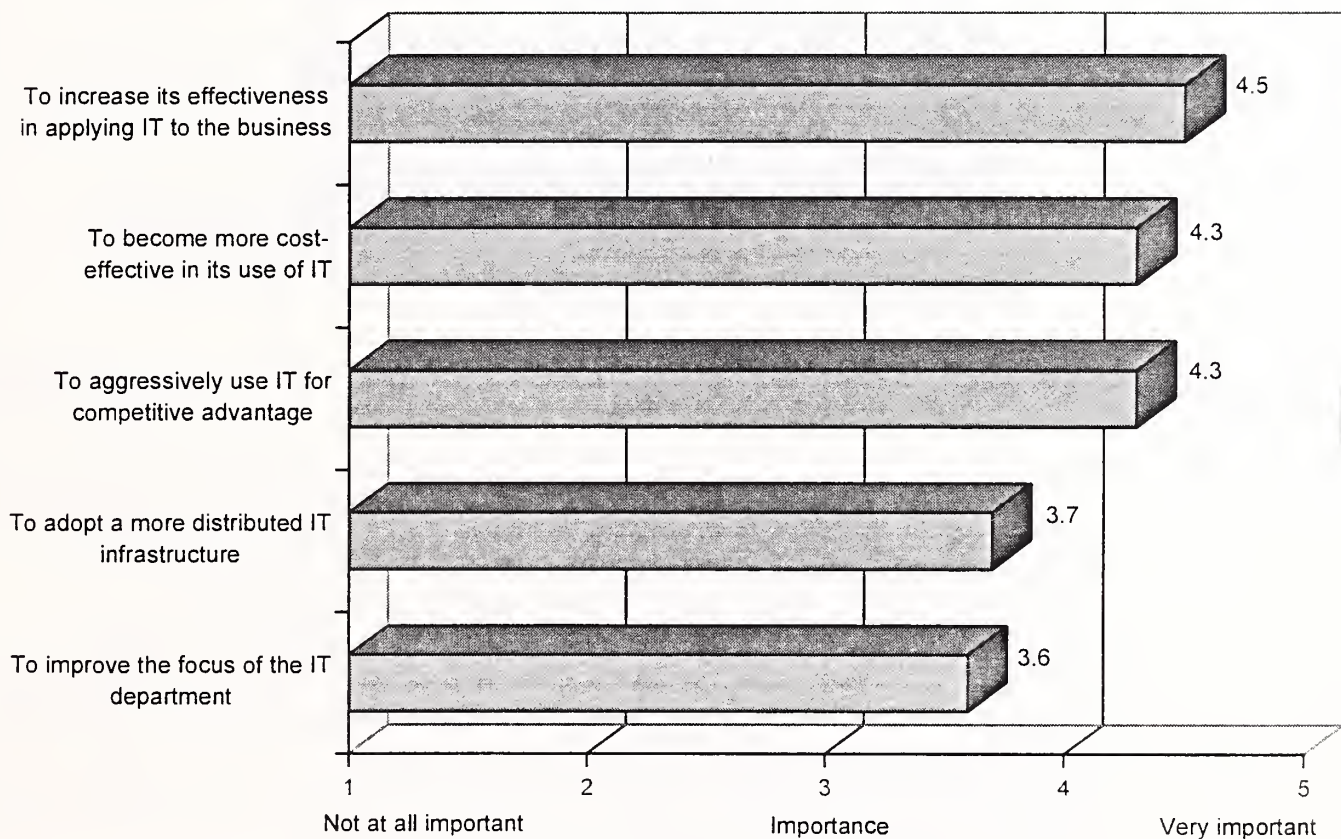
Sample of 23 respondents. Standard error = 0.3

Source: INPUT

Exhibit IV-21

Least Important IT Challenges: Discrete Manufacturing
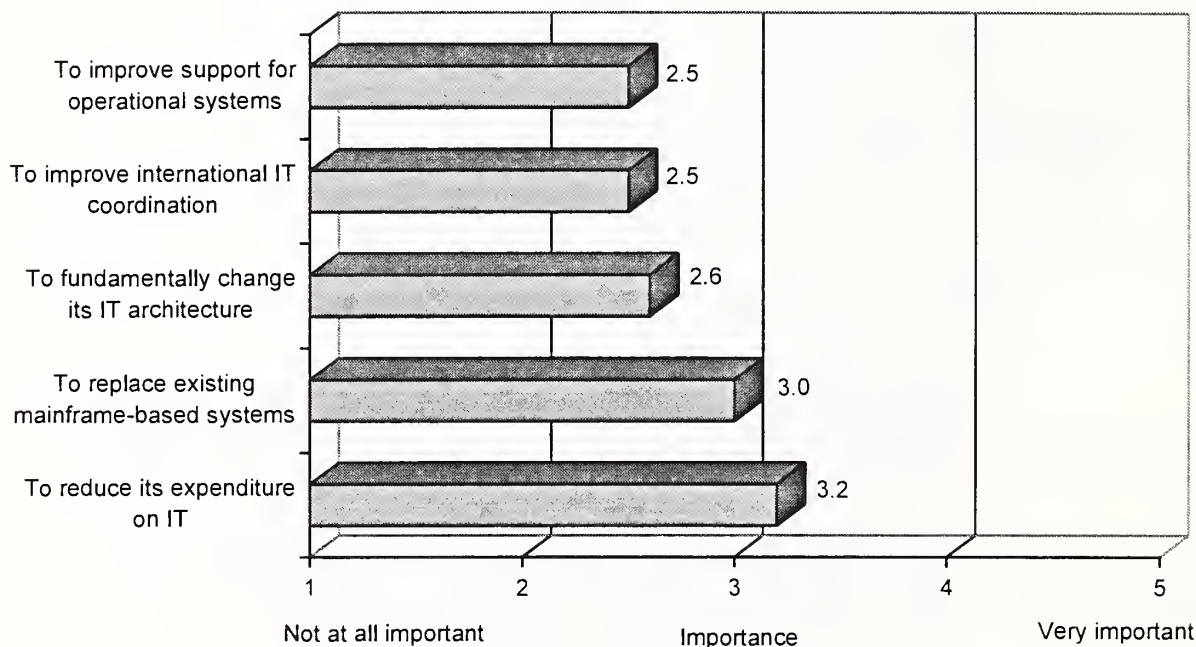
Sample of 23 respondents. Standard error = 0.3   *Source: INPUT*

The discrete manufacturing sector is still endeavouring to move away from centralised architectures towards a more distributed approach. Much of the traditional outsourcing activity in the discrete manufacturing sector has been transition outsourcing, involving transferring the management of mainframe operations to an outsourcing vendor, while new, more distributed systems are being developed. These new systems were often designed to serve individual departments or business units and reflected the changing organisational structures, and levels of autonomy, within the companies concerned.

Organisations in the discrete manufacturing sector still exhibit a comparatively strong need to replace existing mainframe-based systems and to reduce their expenditure on IT.

Exhibit IV-22 lists the most satisfactory attributes of IT departments belonging to organisations in the discrete manufacturing sector and Exhibit IV-23 lists their least satisfactory attributes.

Exhibit IV-22

Areas of Highest Satisfaction: Discrete Manufacturing

OSMR

Area	Level
End-user support	3.3
Geographic support coverage	3.2
Business orientation & understanding	3.2
Focus on systems provision not operations	3.1
Ability to support business process	3.1

1 — Low   2   3 — Level of satisfaction   4   5 — High

Sample of 23 respondents. Standard error = 0.3   *Source: INPUT*

IV-25

Exhibit IV-23

Areas of Lowest Satisfaction: Discrete Manufacturing

IV-26

OSMR

Effectiveness in applying IT to the business — 2.6

Systems development & implementation — 2.7

Ability to use IT for competitive advantage — 2.7

Focus — 2.8

Pro-active support for the business — 2.8

Overall cost-effectiveness — 2.8

| 1 | 2 | 3 | 4 | 5 |

Low   Level of satisfaction   High
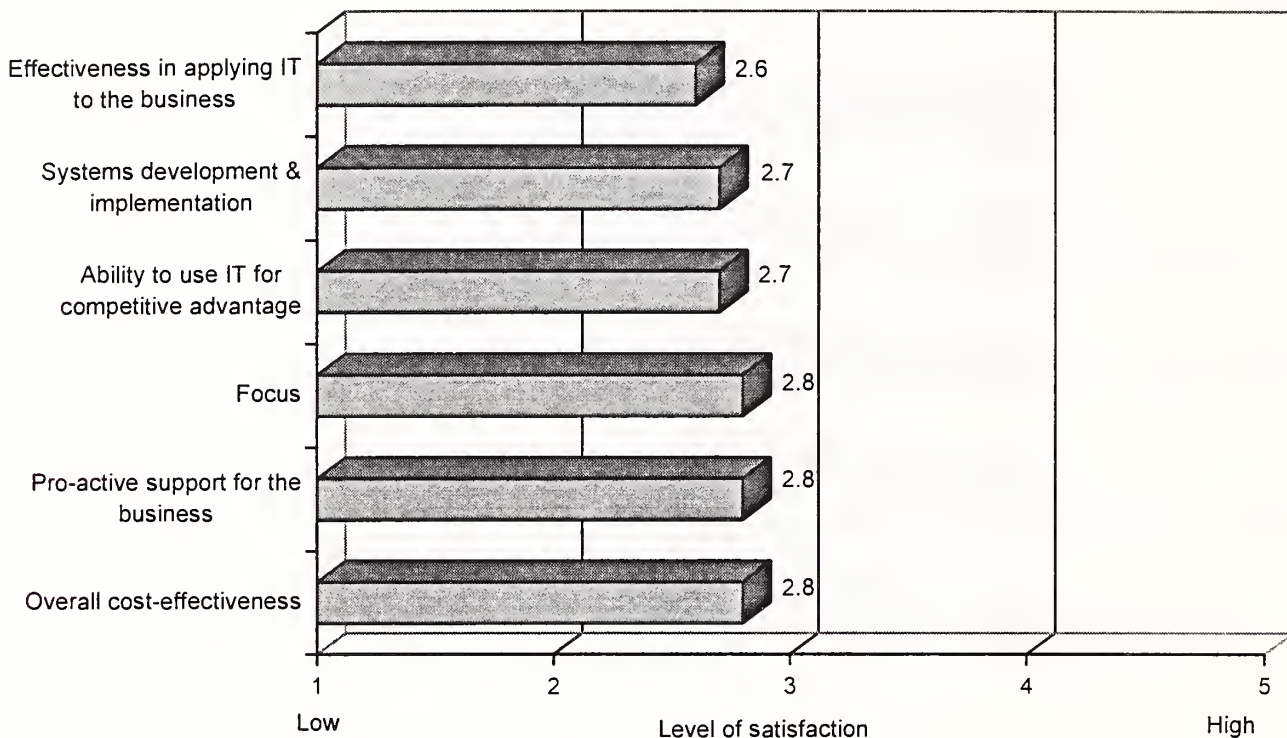
Sample of 23 respondents. Standard error = 0.3   *Source: INPUT*

Overall, the level of satisfaction with the performance of IT departments within the discrete manufacturing sector is very low. This is particularly true in terms of their ability to apply IT to the business, including areas such as their knowledge of business issues and the ability to apply this knowledge pro-actively. This may explain the recent switch in emphasis from the management of legacy systems to major applications operations contracts within the discrete manufacturing sector.

Exhibit IV-24 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-24

Importance vs. Satisfaction with IT Functions Performed In-house

	Importance	Satisfaction	Difference
New system development	4.0	2.8	1.2
Application selection and integration	4.0	3.0	1.0
Provision and support for wide area connectivity	3.7	2.8	0.9
Day-to-day support of the desktop environment	3.9	3.1	0.8
Day-to-day support of LANs	4.0	3.3	0.7
Support of branch locations	3.6	3.1	0.5
Maintenance of well-established applications	3.6	3.6	0.0
Day-to-day operation of datacentres	3.1	3.6	-0.5

Source: INPUT

In particular, satisfaction levels are low for all functions concerned with the identification, development and implementation of new systems and for support of distributed architectures.

As a result, a number of large manufacturing companies, for example British Aerospace, Lucas and FAG Kügelfischer have been the subject of major applications operations contracts in recent years, having decided that IT was not one of their in-house, strategic strengths.

Exhibit IV-25 indicates the relative extent to which managers perceive it to be necessary to perform each of the IT functions in-house.

Exhibit IV-25

Perceived Necessity of Performing Function In-house

IV-28

Function	Value
Day-to-day operation of datacentres	2.3
New system development	2.6
Provision and support for wide area connectivity	2.6
Maintenance of well-established applications	2.7
Day-to-day support of LANs	2.8
Support of branch locations	2.9
Application selection and integration	2.9
Day-to-day support of the desktop environment	2.9

1   2   3   4   5

Low   Necessity of performing In-house   High
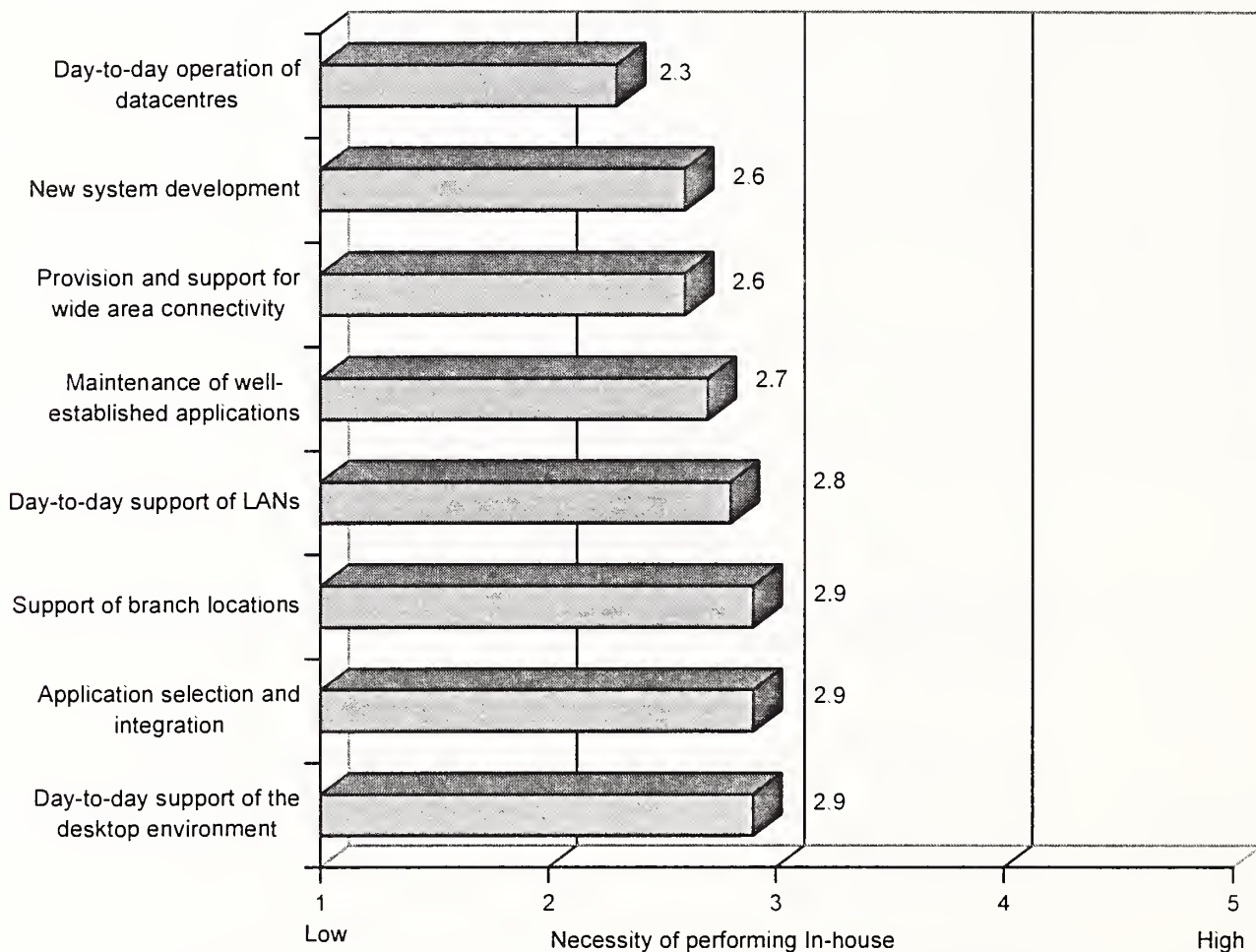
Sample of 23 respondents. Standard error = 0.3   *Source: INPUT*

In the discrete manufacturing sector, there is no strong desire to retain any IT functions in-house. There is neither the desire to maintain a competence in legacy systems such as that found in the insurance sector nor a particularly strong desire to refocus the in-house IT department on new systems development.

The manufacturing sector has traditionally been one of the major areas of opportunity for outsourcing vendors and one of the first sectors in each country to adopt outsourcing. However, there still remains considerable potential for outsourcing in this sector. Indeed, there appears to be an increasing acceptance in the manufacturing sector that IT is not a core skill. As a result, there is a shift in emphasis from transition outsourcing and the management of datacentres to entrusting vendors with

responsibility for the re-application of IT to the business. This has already resulted in a number of contracts with major manufacturing organisations considerably in excess of $100 million, and it is probable that this trend will continue over the next five years.

E

Process Manufacturing —External Assistance Required to Improve International Coverage

Exhibit IV-26 lists the principal business pressures on the European process manufacturing sector, and Exhibit IV-27 identifies key areas for action in this sector.

Exhibit IV-26

Principal Business Pressures: Process Manufacturing
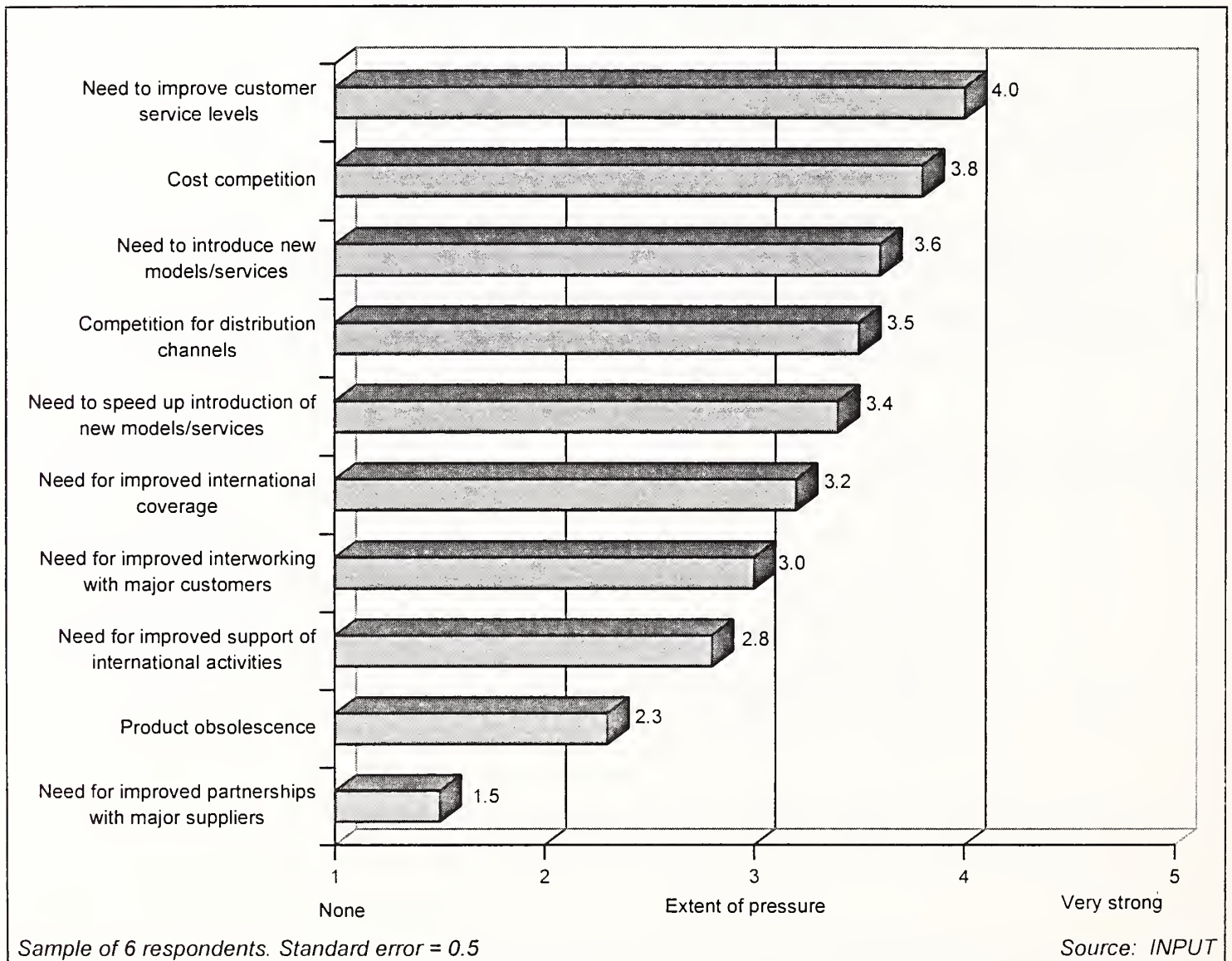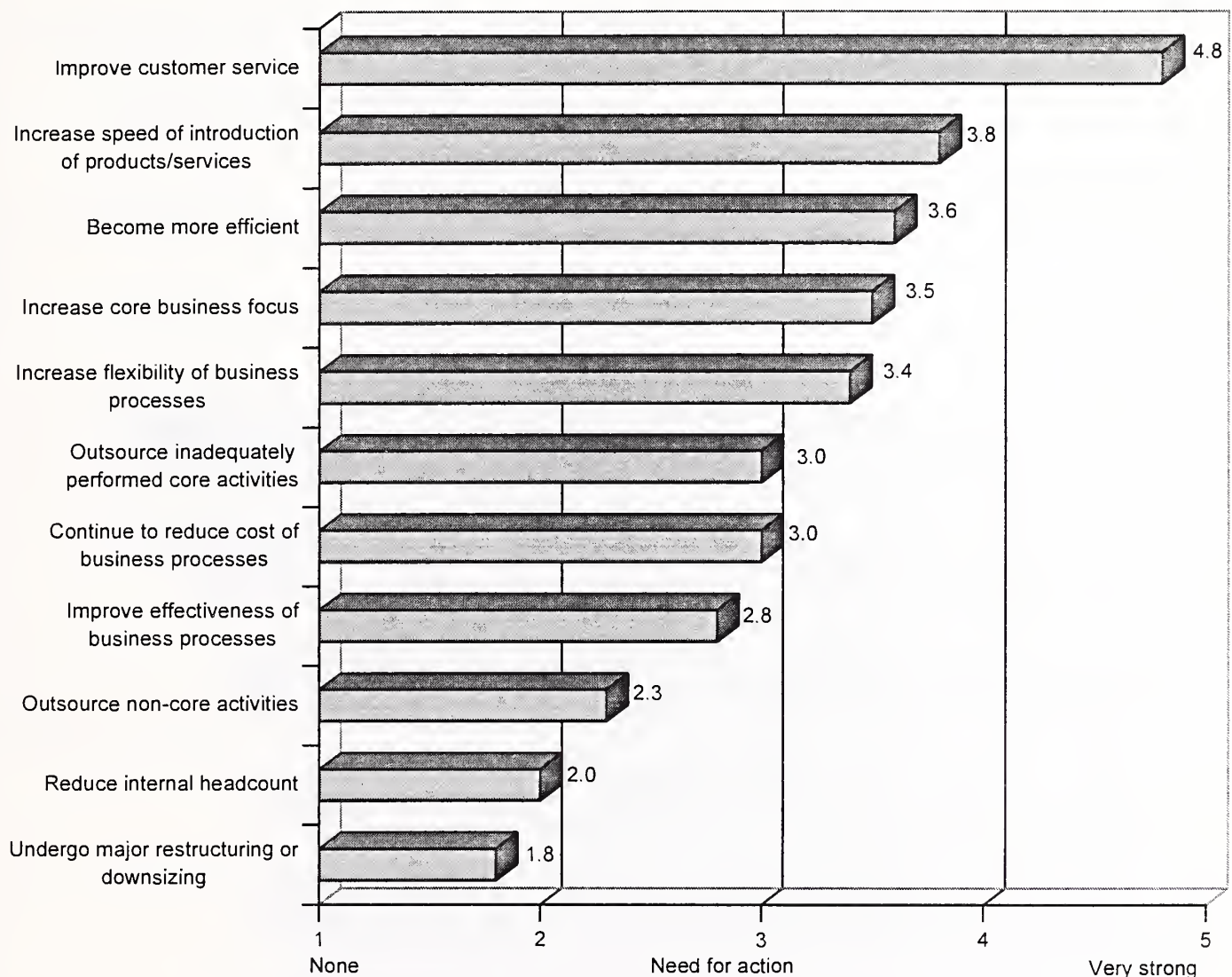

Pressure	Value
Need for improved international coverage	4.1
Need for improved support of international activities	3.9
Need to improve customer service levels	3.9
Need for improved interworking with major customers	3.7
Cost competition	3.6
Competition for distribution channels	3.5
Need to introduce new models/services	3.2
Need to speed up introduction of new models/services	3.0
Need for improved partnerships with major suppliers	2.8
Product obsolescence	2.6

None   Extent of pressure   Very strong

Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

Exhibit IV-27

Key Actions: Process Manufacturing

Action	Value
Become more efficient	4.2
Improve customer service	4.0
Continue to reduce cost of business processes	3.6
Increase flexibility of business processes	3.5
Increase core business focus	3.3
Increase speed of introduction of products/services	3.0
Improve effectiveness of business processes	3.0
Outsource inadequately performed core activities	2.6
Outsource non-core activities	2.4
Undergo major restructuring or downsizing	1.9
Reduce internal headcount	1.7

Scale: 1 None — 2 — 3 Need for action — 4 — 5 Very strong

Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

The principal priority for organisations in the process manufacturing sector is the need to develop an improved international coverage. Secondly, these organisations place an emphasis on improved interworking, and support, for their major customers. Maintaining relationships with their suppliers tends to be less important for process manufacturing companies than for discrete manufacturing companies. Accordingly, whereas much of the emphasis in electronic commerce is supplier-facing in the discrete manufacturing sector, it tends to be predominantly customer-facing in the process manufacturing sector.

The most important IT challenges facing organisations in the process manufacturing sector are listed in Exhibit IV-28 and the least important challenges in Exhibit IV-29.

Exhibit IV-28

Most Important IT Challenges: Process Manufacturing

To become more cost-
effective in its use of IT — 4.5

To increase its effectiveness
in applying IT to the business — 4.4

To aggressively use IT for
competitive advantage — 4.3

To increase its use of IT — 4.0

To adopt a more distributed IT
infrastructure — 3.9
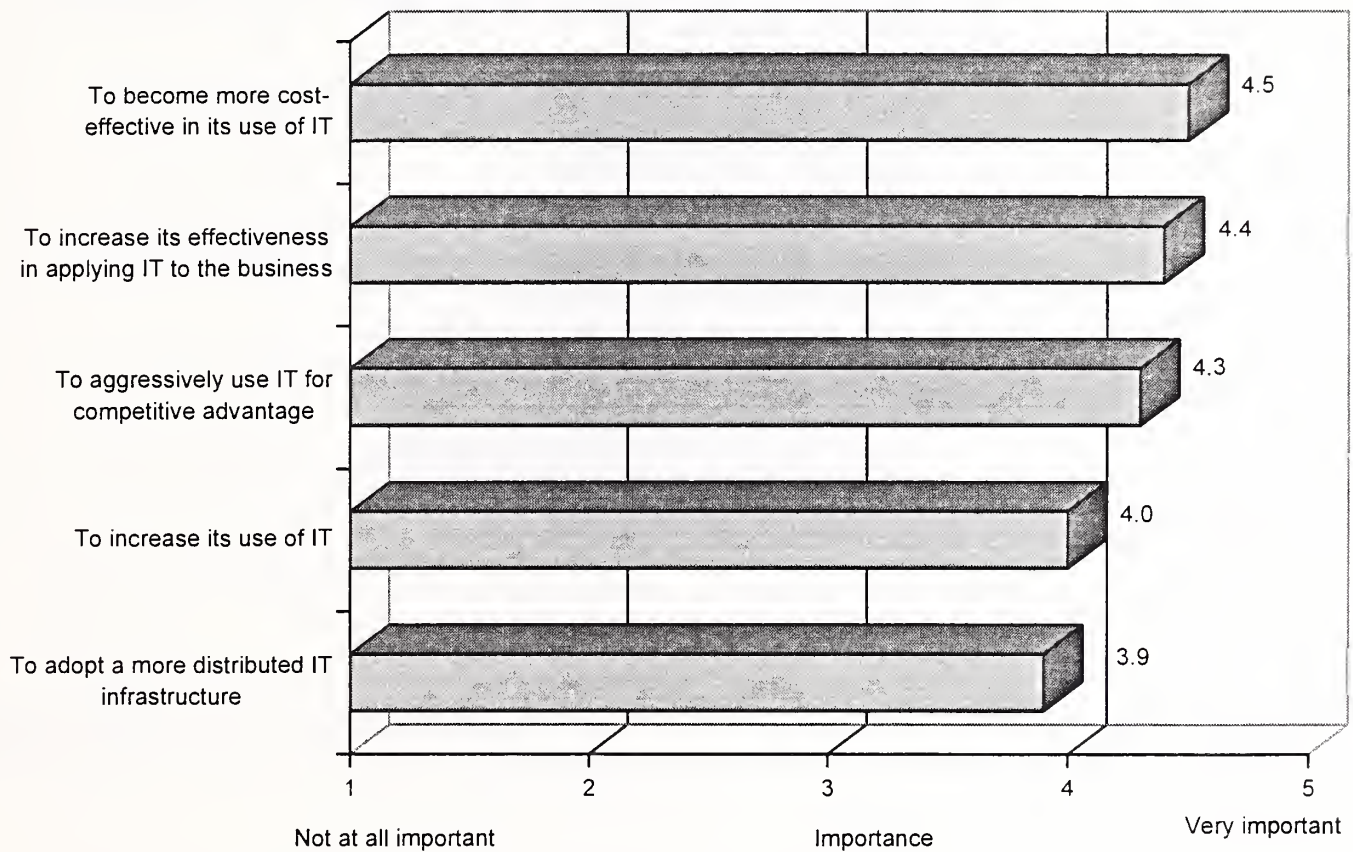
| 1 | 2 | 3 | 4 | 5 |
| Not at all important | | Importance | | Very important |

Exhibit IV-29

Least Important IT Challenges: Process Manufacturing
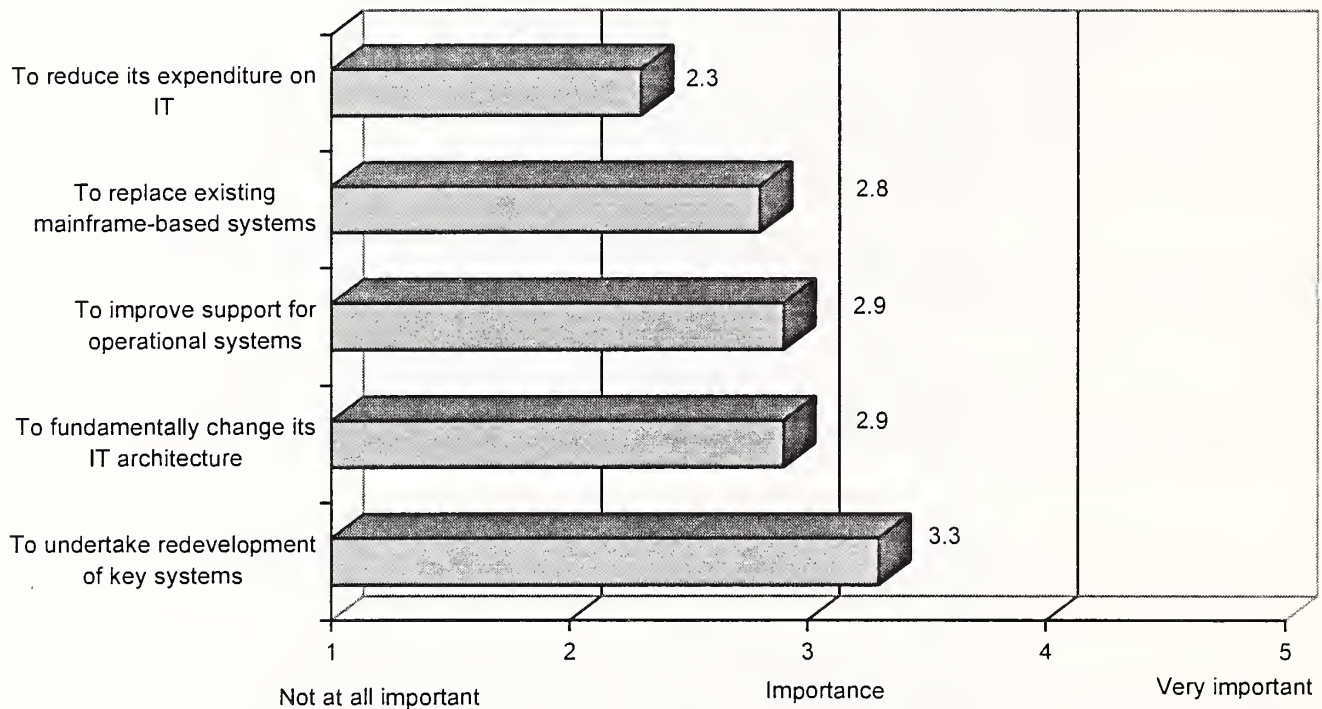
To reduce its expenditure on IT — 2.3

To replace existing mainframe-based systems — 2.8

To improve support for operational systems — 2.9

To fundamentally change its IT architecture — 2.9

To undertake redevelopment of key systems — 3.3

```
        1            2            3            4            5
Not at all important        Importance        Very important
```

Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

Organisations in the process manufacturing sector exhibit a particularly strong need to cost-effectively increase their use of IT, a desire that has traditionally led to the process manufacturing sector having a comparatively high propensity for outsourcing. However, the overall emphasis within the sector is on aggressively applying IT to the business rather than reducing the level of IT spending.

Exhibit IV-30 lists the most satisfactory attributes of IT departments belonging to organisations in the process manufacturing sector and Exhibit IV-31 lists their least satisfactory attributes.

Exhibit IV-30

Areas of Highest Satisfaction: Process Manufacturing

OSMR

Focus on systems provision
not operations support — 3.4

Business orientation &
understanding — 3.4

Geographic support
coverage — 3.3

End-user support — 3.3

Pro-active support for the
business — 3.3

1   2   3   4   5
Low   Level of satisfaction   High
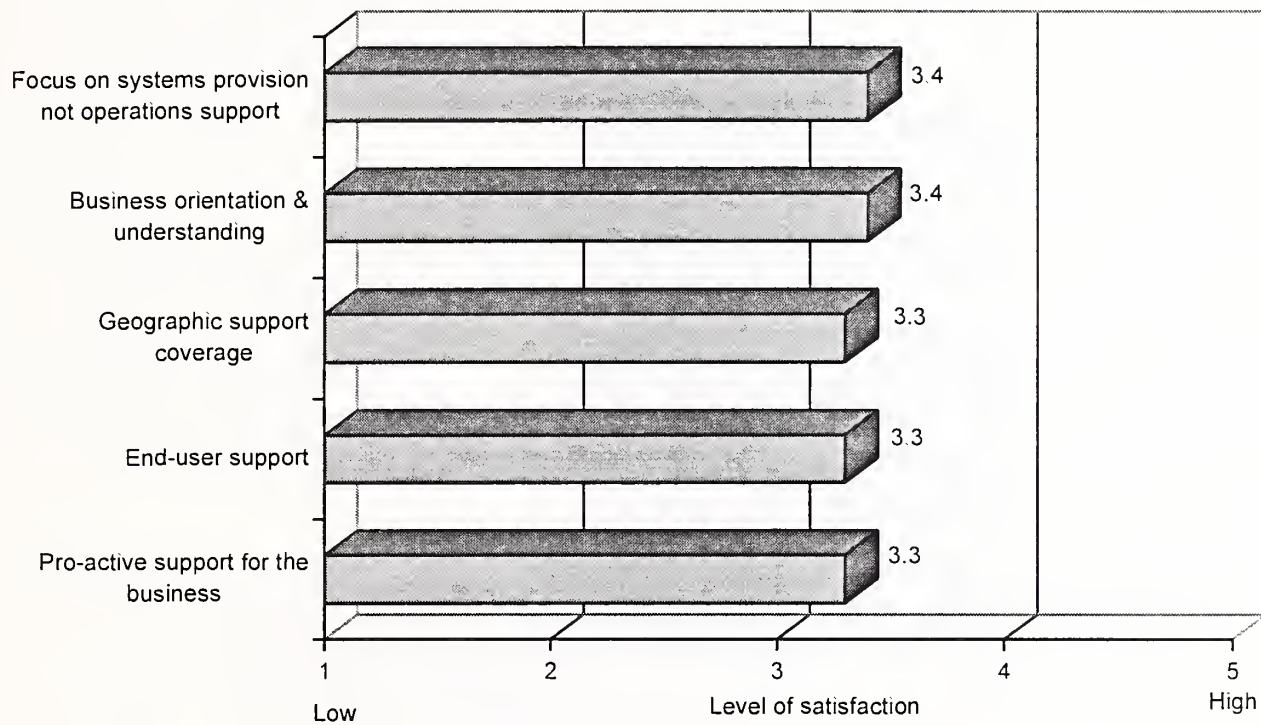
Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

Exhibit IV-31

Areas of Lowest Satisfaction: Process Manufacturing

Ability to use IT for competitive advantage — 2.7

Focus — 2.8

Speed of application introduction — 2.8

Effectiveness in applying IT to the business — 2.8

System development & implementation — 2.9

Level of satisfaction (1 Low to 5 High)
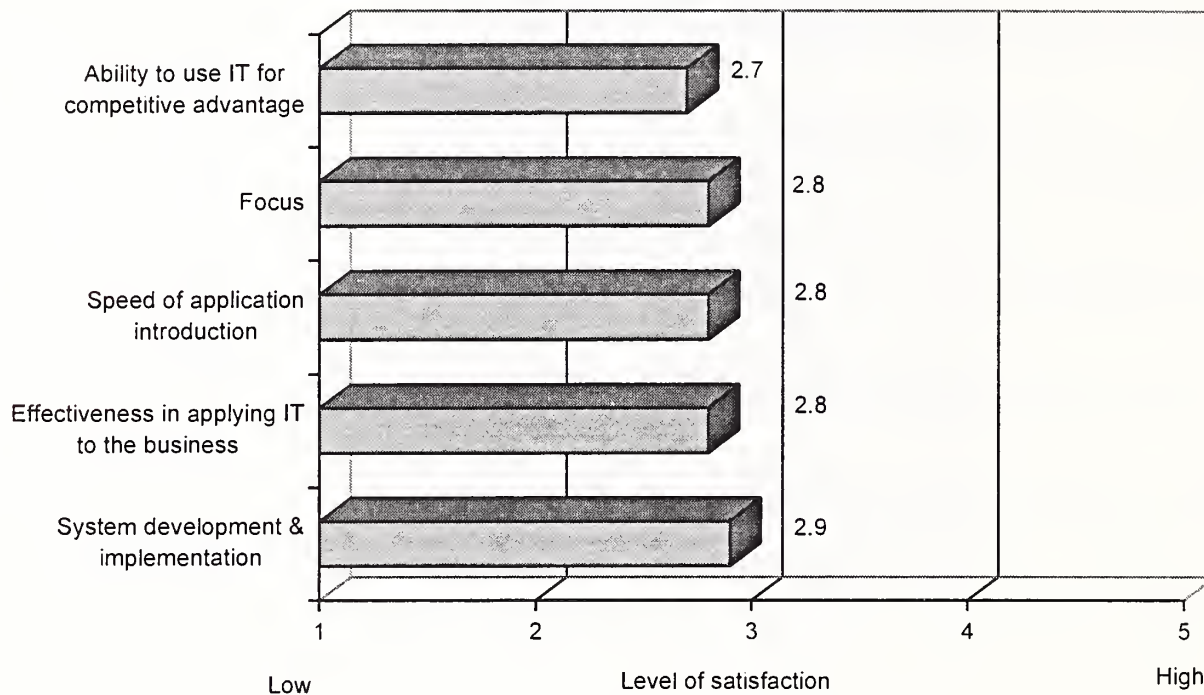
Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

The overall level of satisfaction with the performance of in-house IT departments is comparatively low in the process manufacturing sector, as in the discrete manufacturing sector. IT departments in the process manufacturing sector are typically perceived to be focused on systems provision rather than operations support but still exhibit weaknesses in applying IT to the business and in the rapid provision of new systems.

Exhibit IV-32 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-32

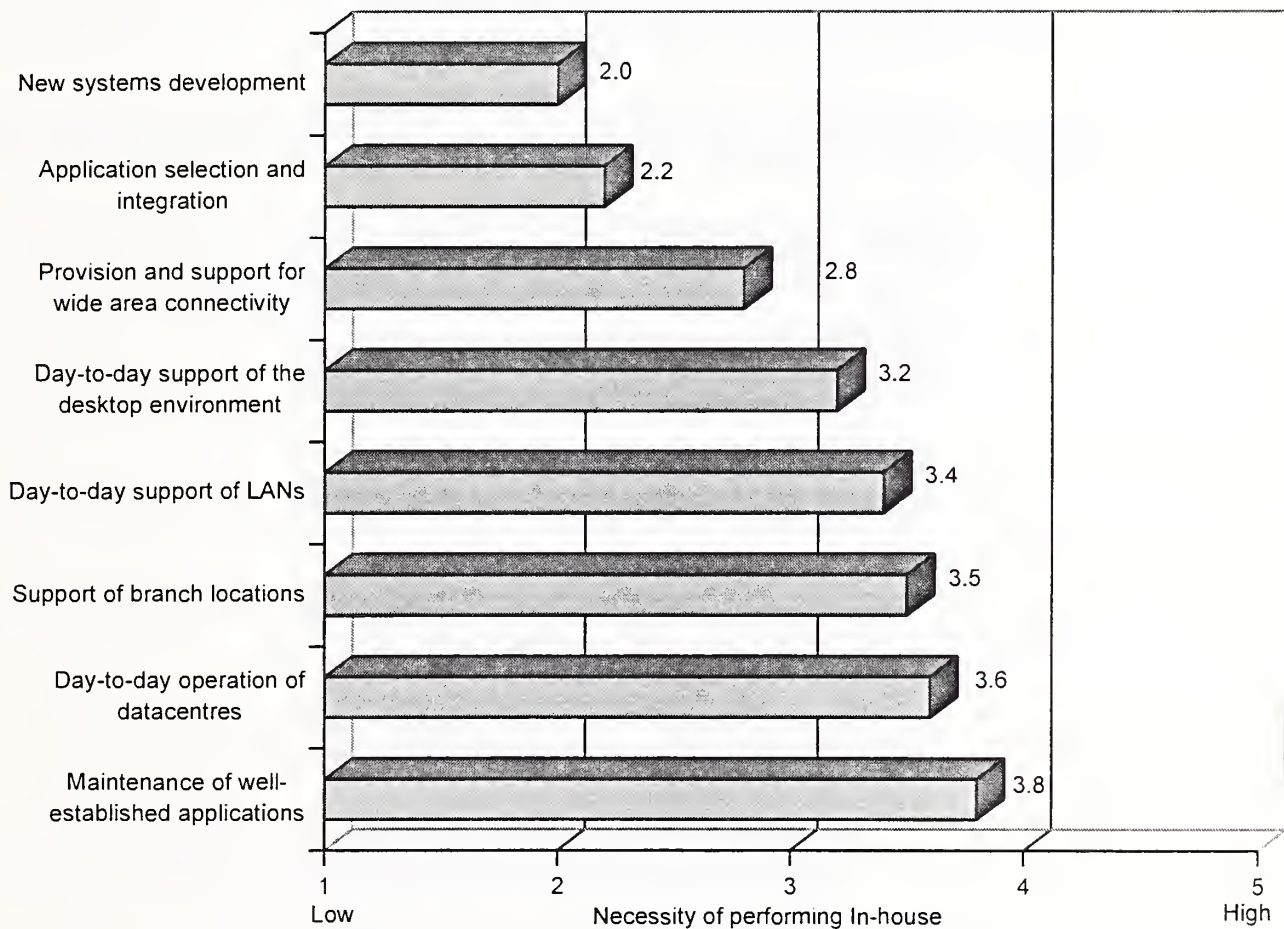## Importance vs. Satisfaction with IT Functions Performed In-house

Function	Importance	Satisfaction	Difference
Provision and support for wide area connectivity	3.9	2.8	1.1
New system development	3.9	3.1	0.8
Support of branch locations	4.1	3.3	0.8
Day-to-day support of LANs	3.6	3.0	0.6
Day-to-day support of the desktop environment	3.7	3.1	0.6
Application selection and integration	3.7	3.2	0.5
Day-to-day operation of datacentres	3.6	3.5	0.1
Maintenance of well-established applications	3.7	3.6	0.1

Source: INPUT

Organisations in the process manufacturing sector tend to have a broad geographic coverage both nationally and internationally. Accordingly, enterprises in this sector have been at the forefront in outsourcing the management of their distributed systems, both LANs and wide area networks. The need for support in these areas is illustrated in Exhibit IV-32.

In addition, the development of new systems remains a cause for concern.

Exhibit IV-33 indicates the relative extent to which managers perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-33

Perceived Necessity of Performing Function In-house

Day-to-day operation of datacentres — 2.6
Maintenance of well-established applications — 2.8
New system development — 3.2
Day-to-day support of the desktop environment — 3.2
Day-to-day support of LANs — 3.2
Provision and support for wide area connectivity — 3.3
Application selection and integration — 3.4
Support of branch locations — 3.6

1 Low   2   3   4   5 High
Necessity of performing In-house
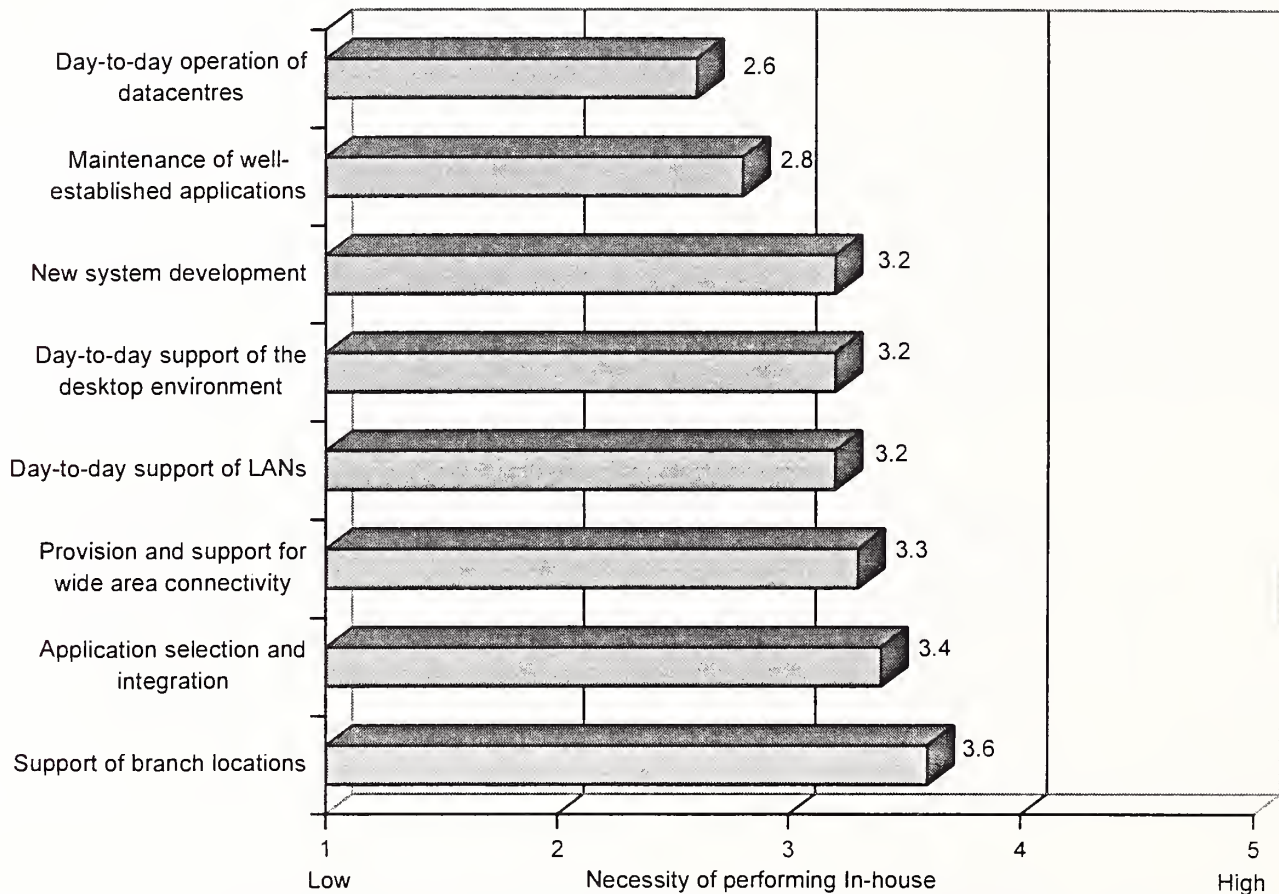
Sample of 22 respondents. Standard error = 0.3   *Source: INPUT*

Much of the traditional outsourcing in the process manufacturing sector has been related to downsizing and the replacement of mainframes and associated legacy applications. However, one of the principal characteristics of organisations in the process manufacturing sector is the distributed nature of the enterprise and the resulting high level of acceptance of client/server systems management encompassing both outsourced desktop services and wide area network management.

F
Retail — Strong Demand for Desktop Services

Exhibit IV-34 lists the principal business pressures on the European retail sector, and Exhibit IV-35 identifies key areas for action in this sector.

Exhibit IV-34

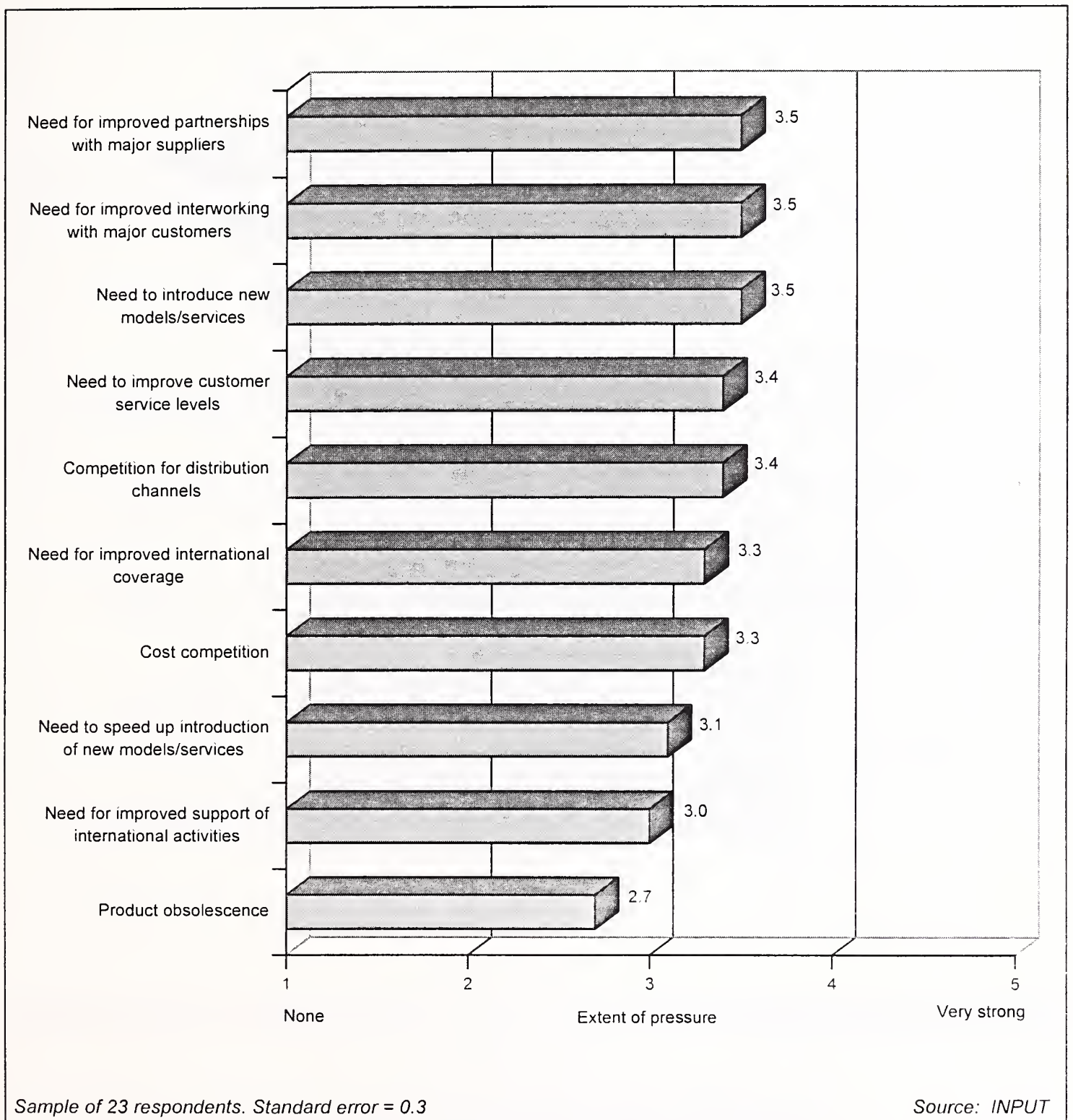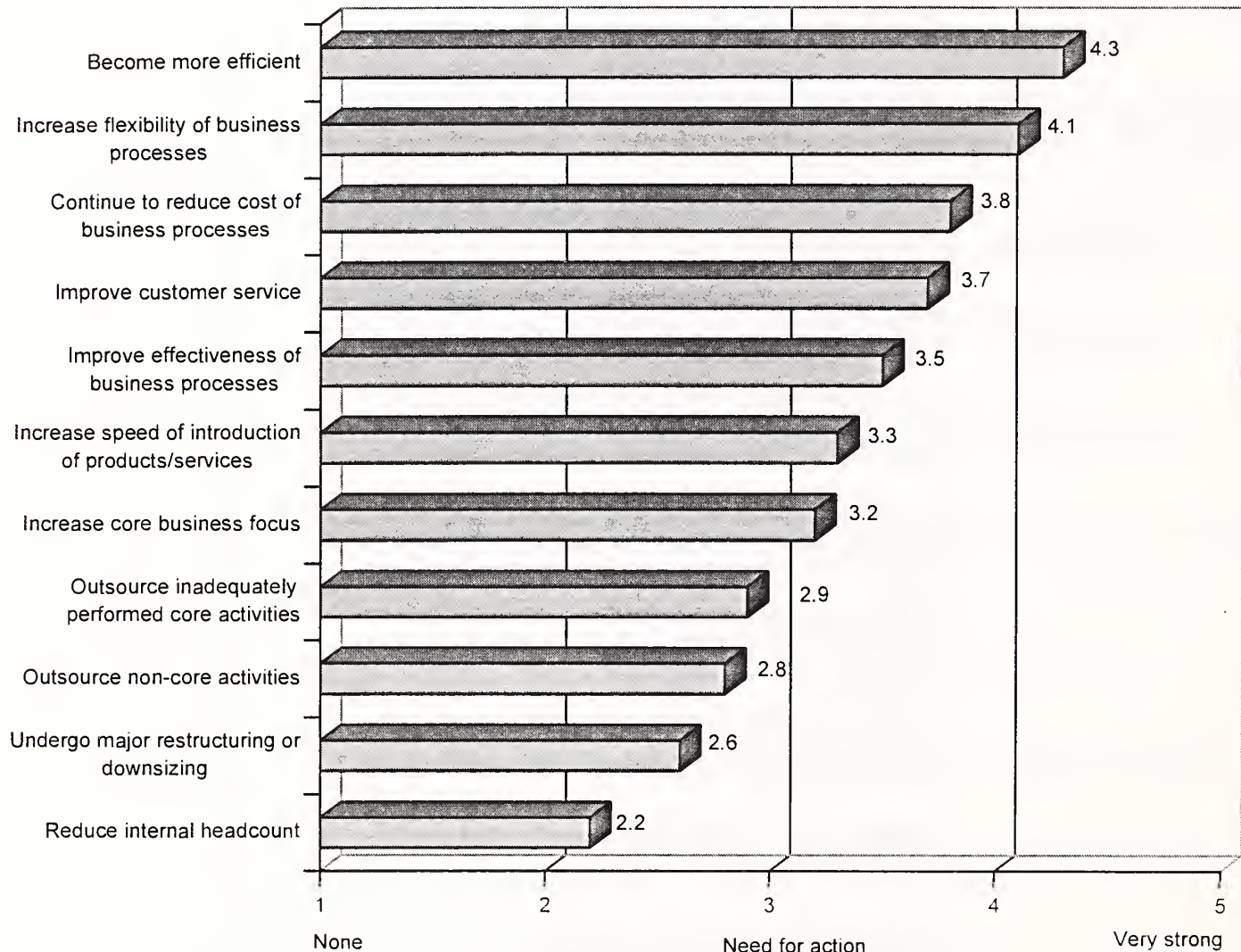### Principal Business Pressures: Retail

Business Pressure	Extent of pressure
Competition for distribution channels	4.3
Cost competition	4.0
Need for improved partnerships with major suppliers	3.8
Need to improve customer service levels	3.8
Need to introduce new models/services	3.0
Need to speed up introduction of new models/services	2.8
Need for improved interworking with major customers	2.5
Need for improved international coverage	2.3
Product obsolescence	2.0
Need for improved support of international activities	1.5

Scale: 1 = None, 3 = Extent of pressure, 5 = Very strong

Sample of 22 respondents. Standard error = 0.5   *Source: INPUT*

Exhibit IV-35

Key Actions: Retail

Key Action	Value
Improve customer service	4.8
Become more efficient	4.4
Increase core business focus	4.2
Improve effectiveness of business processes	4.0
Continue to reduce cost of business processes	3.8
Increase flexibility of business processes	3.6
Outsource inadequately performed core activities	3.4
Undergo major restructuring or downsizing	3.0
Outsource non-core activities	2.8
Increase speed of introduction of products/services	2.8
Reduce internal headcount	2.0

1 None   2   3 Need for action   4   5 Very strong

Sample of 5 respondents. Standard error = 0.5   *Source: INPUT*

Organisations in the retail sector perceive themselves to be facing a high level of cost competition and much of their emphasis is on reducing their cost base. In this context, considerable emphasis is placed on improving their partnerships with major suppliers. In the retail sector, the emphasis on electronic commerce is focused strongly on their suppliers rather than their partners complementing the pattern seen for organisations in the process manufacturing sector that typically sell their products through retail outlets. However, at present, the geographic emphasis of retail organisations remains primarily national rather than international.

Encouragingly for outsourcing vendors, organisations in the retail sector exhibit a strong desire to increase their core business focus.

The most important IT challenges facing organisations in the retail sector are listed in Exhibit IV-36 and the least important challenges in Exhibit IV-37.

Exhibit IV-36

## Most Important IT Challenges: Retail
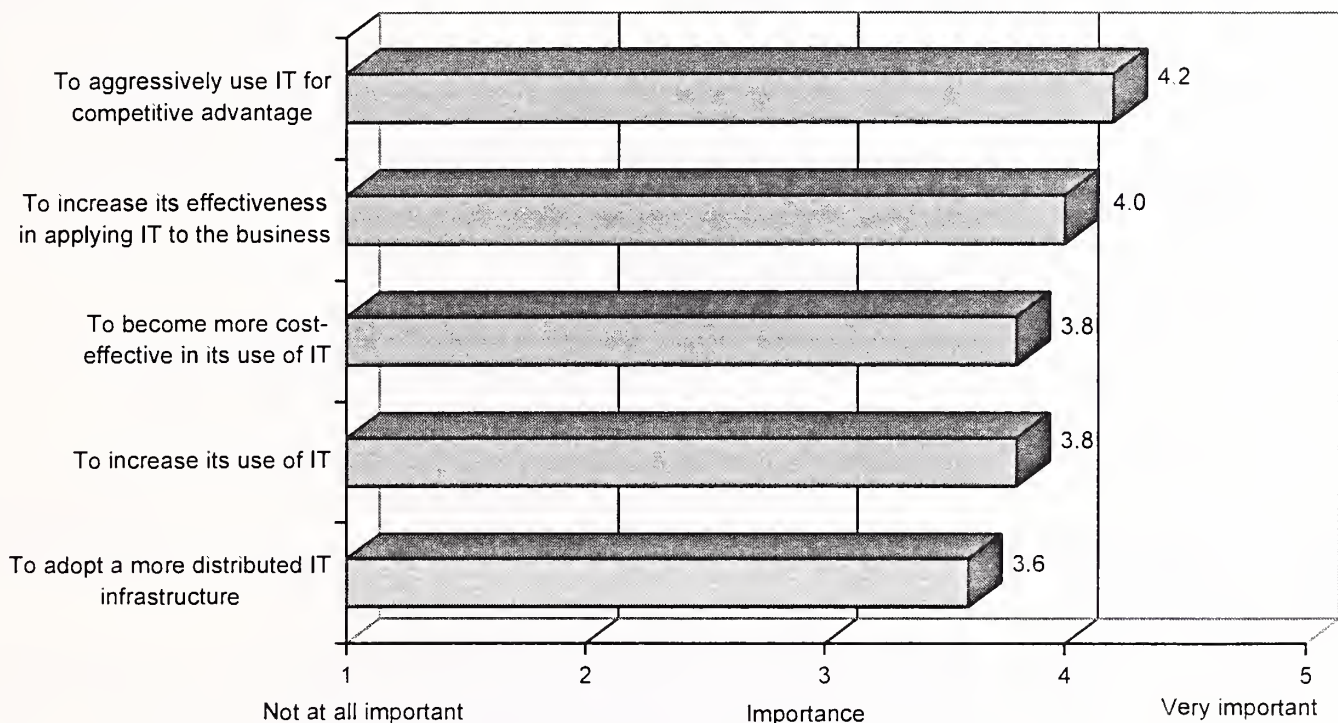
Sample of 5 respondents. Standard error = 0.5

Source: INPUT

Exhibit IV-37

Least Important IT Challenges: Retail
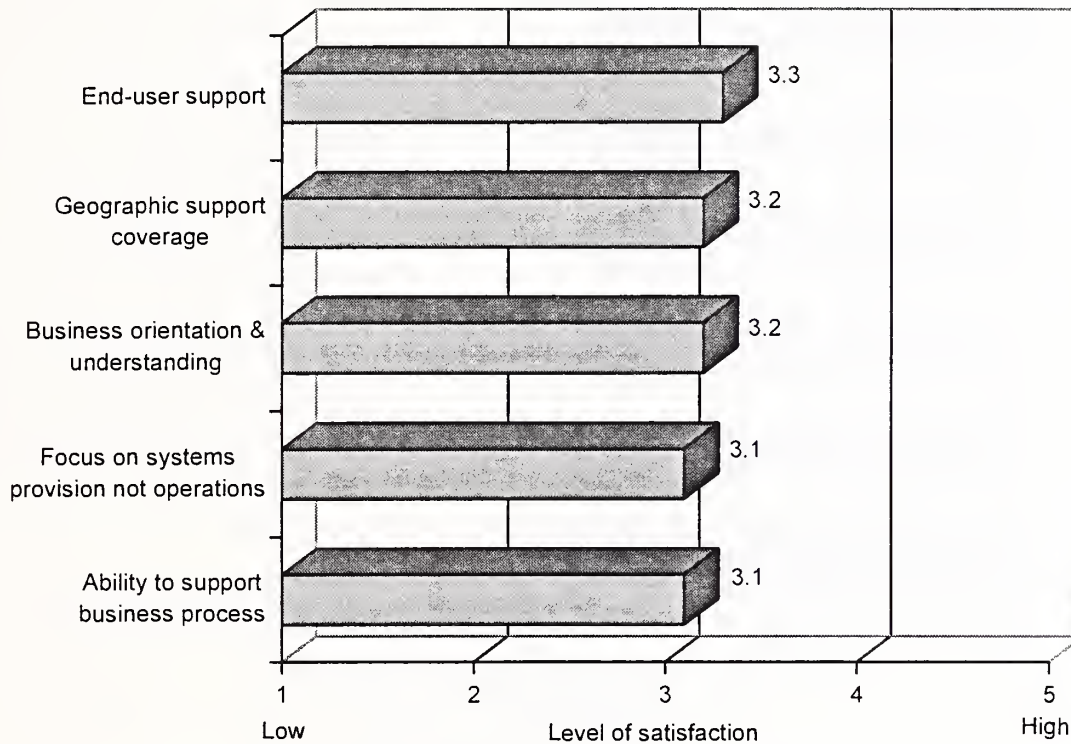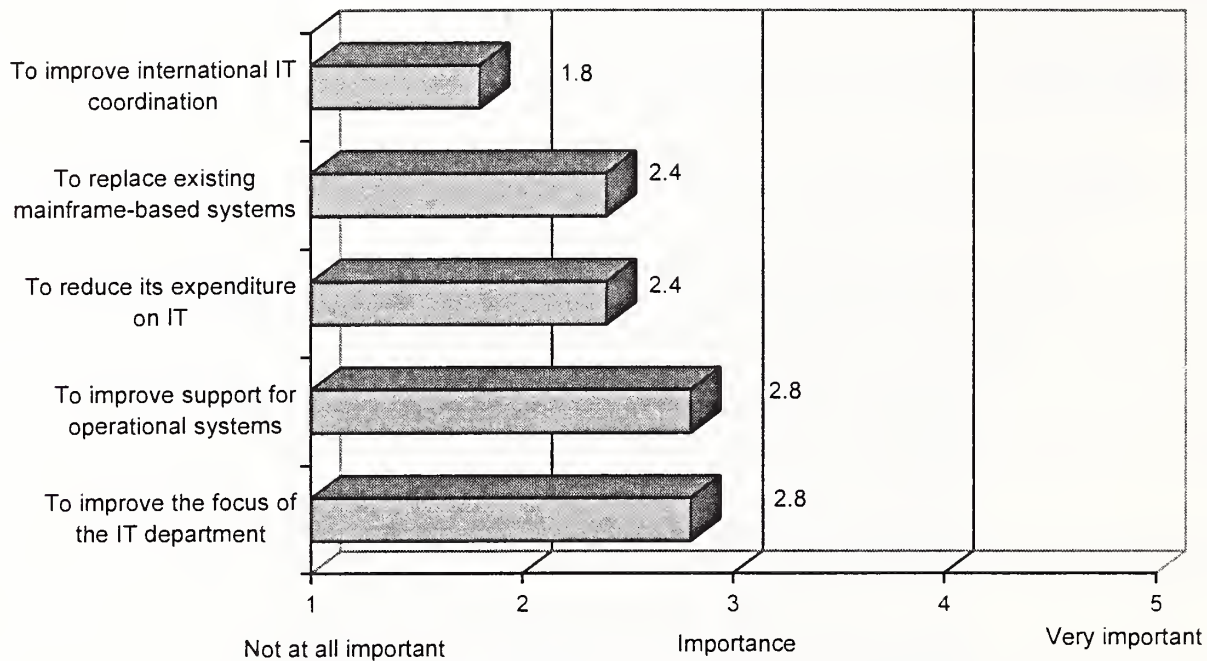

Sample of 5 respondents. Standard error = 0.5   Source: INPUT

The priorities for IT in the retail sector are in improving its application to key areas of the business such as point-of-sale and sales analyses. As in the process manufacturing sector, the emphasis is firmly on cost-effectively increasing the application of IT to the business rather than reducing the absolute level of IT expenditure.

Exhibit IV-38 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-38
Importance vs. Satisfaction with IT Functions Performed In-house

Function	Importance	Satisfaction	Difference
Day-to-day support of the desktop environment	3.8	2.6	1.2
Support of branch locations	4.2	3.2	1.0
New system development	3.6	2.8	0.8
Provision and support for wide area connectivity	3.6	3.0	0.6
Application selection and integration	3.8	3.2	0.6
Day-to-day support of LANs	3.2	2.8	0.4
Day-to-day operation of datacentres	3.0	3.0	0.0
Maintenance of well-established applications	3.4	3.4	0.0

Source: INPUT

There is a significant need for improvement in the level of support for desktop/branch systems within retail outlets. However, support for the branch systems is currently perceived to be a key activity that should be provided by in-house personnel. This may be due to the unique nature of many organisations' in-store systems.

Similarly, the selection and implementation of new systems is typically not performed to a satisfactory standard in-house, but is perceived to be a critical activity that should be retained in-house. Exhibit IV-39 indicates the relative extent to which managers perceive it to be necessary to perform each of the IT functions in-house.

Exhibit IV-39

Perceived Necessity of Performing Function In-house

Day-to-day operation of datacentres: 2.2
Maintenance of well-established applications: 2.8
Day-to-day support of LANs: 3.2
Day-to-day support of the desktop environment: 3.4
Provision and support for wide area connectivity: 3.6
Support of branch locations: 4.0
Application selection and integration: 4.6
New system development: 4.8

Low   Necessity of performing In-house   High

Sample of 5 respondents. Standard error = 0.5   *Source: INPUT*

In the retail sector in Europe, only organisations facing considerable competitive pressure have tended to adopt outsourcing. For example, GSI has successfully targeted the retail sector, including major supermarket chains, in France. In addition, EDS and CSC have signed major contracts with KF in Sweden and BhS in the U.K. respectively.

In the future, there is considerable potential for client/server systems management covering the widespread networks of major retailers. The sector also shows a comparatively high propensity for application maintenance management.

G

Wholesale — Opportunities Remain in Platform Operations

Exhibit IV-40 lists the principal business pressures on the European wholesale sector, and Exhibit IV-41 identifies key areas for action in this sector.

Exhibit IV-40

Principal Business Pressures: Wholesale

Category	Value
Need for improved partnerships with major suppliers	5.0
Need for improved interworking with major customers	4.5
Need to improve customer service levels	4.3
Competition for distribution channels	4.3
Cost competition	4.3
Need to speed up introduction of new models/services	3.5
Need for improved support of international activities	3.3
Need to introduce new models/services	3.0
Need for improved international coverage	2.7
Product obsolescence	2.5

1 — None   2   3 — Extent of pressure   4   5 — Very strong

Sample of 4 respondents. Standard error = 0.5   *Source: INPUT*

Exhibit IV-41

Key Actions: Wholesale

Improve customer service	5.0
Become more efficient	4.5
Continue to reduce cost of business processes	4.3
Increase speed of introduction of products/services	3.5
Increase flexibility of business processes	3.5
Improve effectiveness of business processes	3.5
Reduce internal headcount	3.3
Increase core business focus	3.0
Undergo major restructuring or downsizing	2.8
Outsource inadequately performed core activities	2.7
Outsource non-core activities	2.3

1 None   2   3 Need for action   4   5 Very strong

Sample of 4 respondents. Standard error = 0.5   *Source: INPUT*

The wholesale distribution sector is facing considerable competition and perceives a very powerful need to reduce the cost of internal business processes. At the same time, organisations in the sector are endeavouring to strengthen their links with both customers and suppliers.

The most important IT challenges facing organisations in the wholesale sector are listed in Exhibit IV-42 and the least important challenges in Exhibit IV-43.

Exhibit IV-42

Most Important IT Challenges: Wholesale

Challenge	Importance
To become more cost-effective in its use of IT	5.0
To increase its effectiveness in applying IT to the business	4.5
To aggressively use IT for competitive advantage	4.0
To undertake redevelopment of key systems	3.3
To improve the focus of the IT department	3.3
To reduce its expenditure on IT	3.3

Scale: 1 = Not at all important, 3 = Importance, 5 = Very important
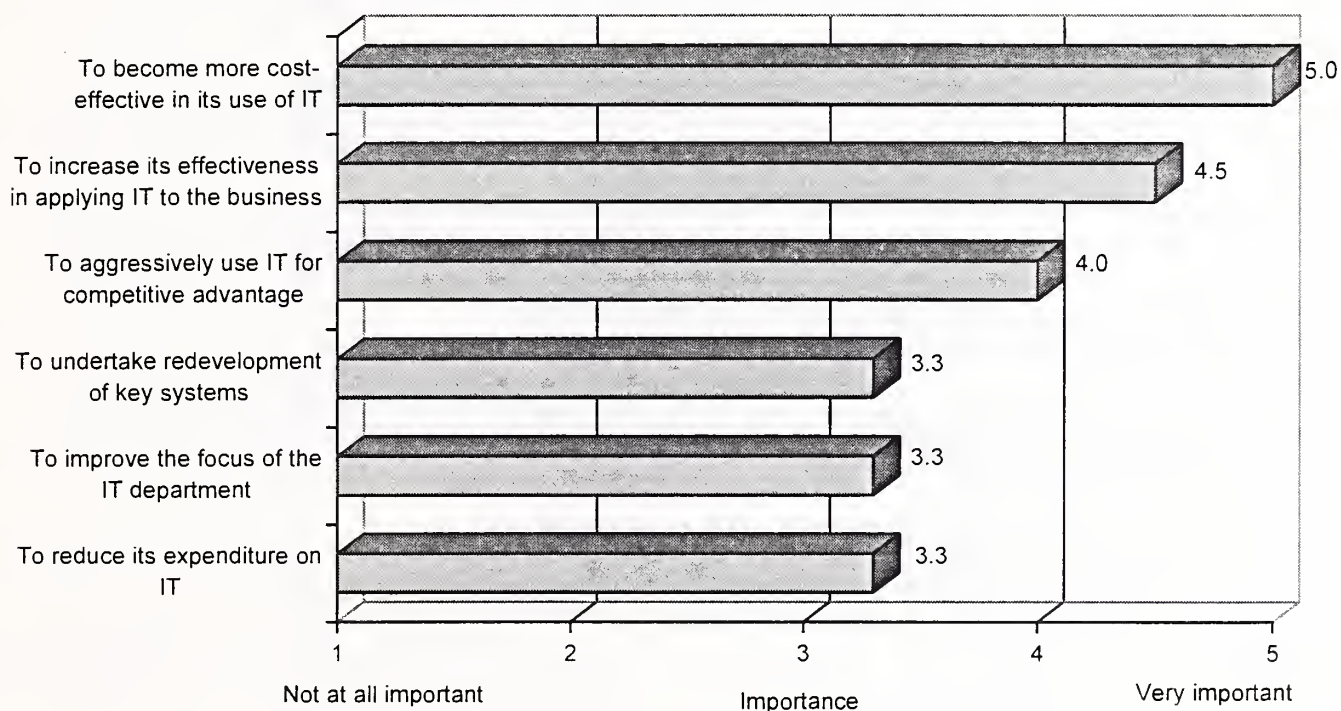
Sample of 4 respondents. Standard error = 0.5

Source: INPUT

Exhibit IV-43

Least Important IT Challenges: Wholesale
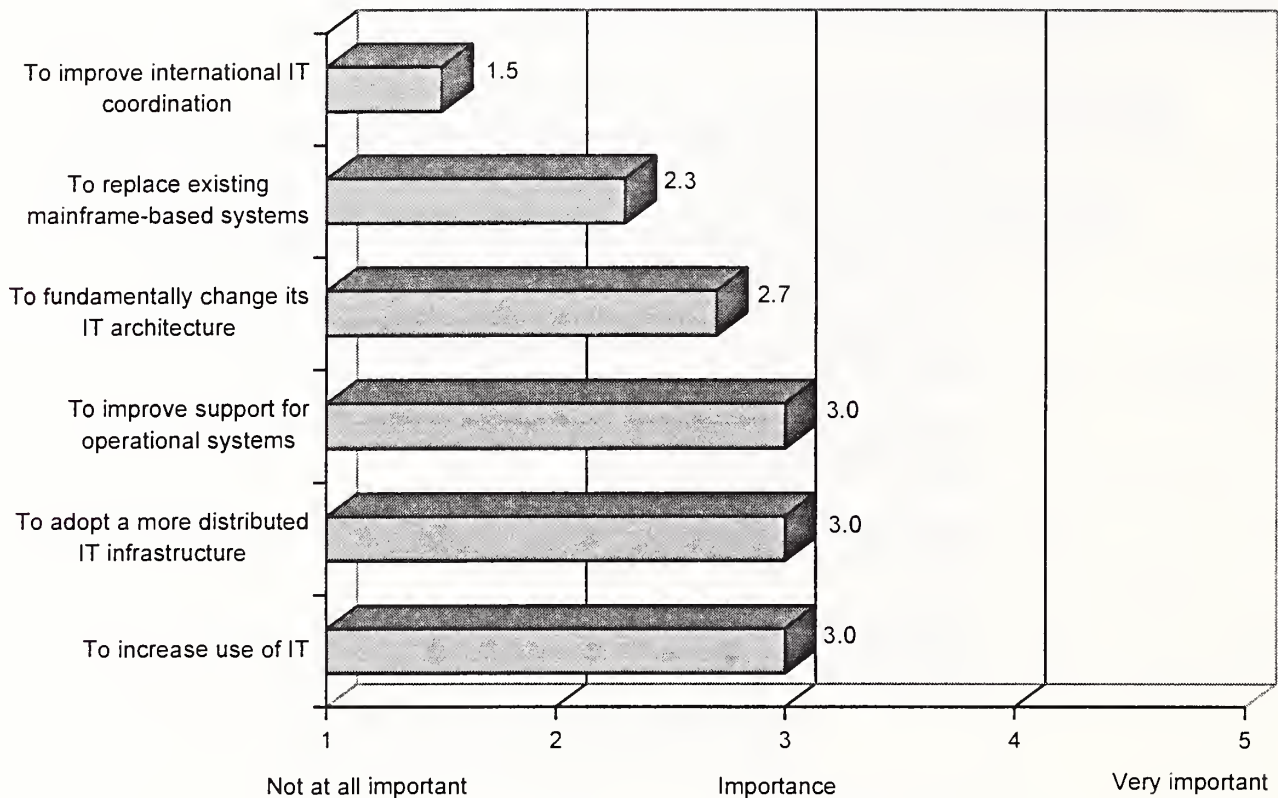
Sample of 4 respondents. Standard error = 0.5   Source: INPUT

Overall, the wholesale sector shows considerable potential for outsourcing. The sector probably exhibits the highest cost pressure on the use of IT, with comparatively strong emphases on becoming more cost-effective in the use of IT and on reducing actual IT expenditure.

On the other hand, organisations within this sector show comparatively less enthusiasm for increasing the use of IT. This may mean that organisations in the wholesale sector are more prone to seek cost reduction from outsourcing vendors and will be less inclined to use outsourcing as a major means of redeveloping their use of IT.

Exhibit IV-44 lists the most satisfactory attributes of IT departments belonging to organisations in the wholesale sector and Exhibit IV-45 lists their least satisfactory attributes.

Exhibit IV-44

Areas of Highest Satisfaction: Wholesale

IV-47

OSMR

Business orientation & understanding — 3.8

Focus on systems provision not operations — 3.7

Geographic support coverage — 3.3

Pro-active support for the business — 3.3

1 — Low

2

3 — Level of satisfaction

4

5 — High
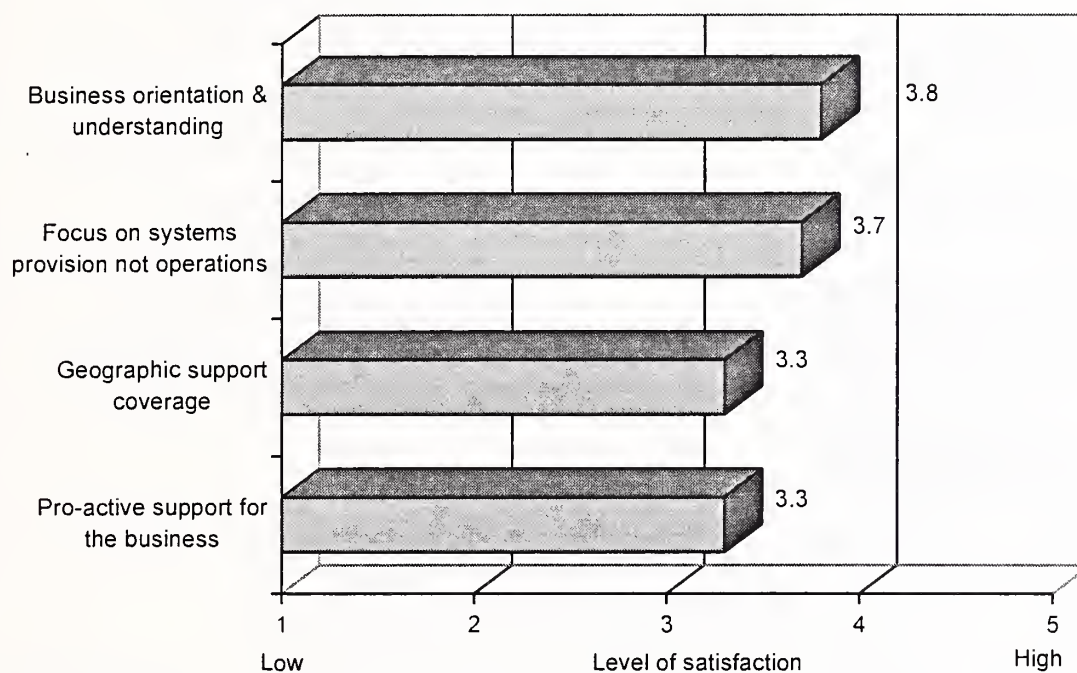
Sample of 4 respondents. Standard error = 0.5

Source: INPUT

Exhibit IV-45

Areas of Lowest Satisfaction: Wholesale

Speed of application introduction — 1.7

Ability to support business process — 2.0

Systems development & implementation — 2.3

Ability to use IT for competitive advantage — 2.3

1 (Low) — 2 — 3 — 4 — 5 (High)

Level of satisfaction
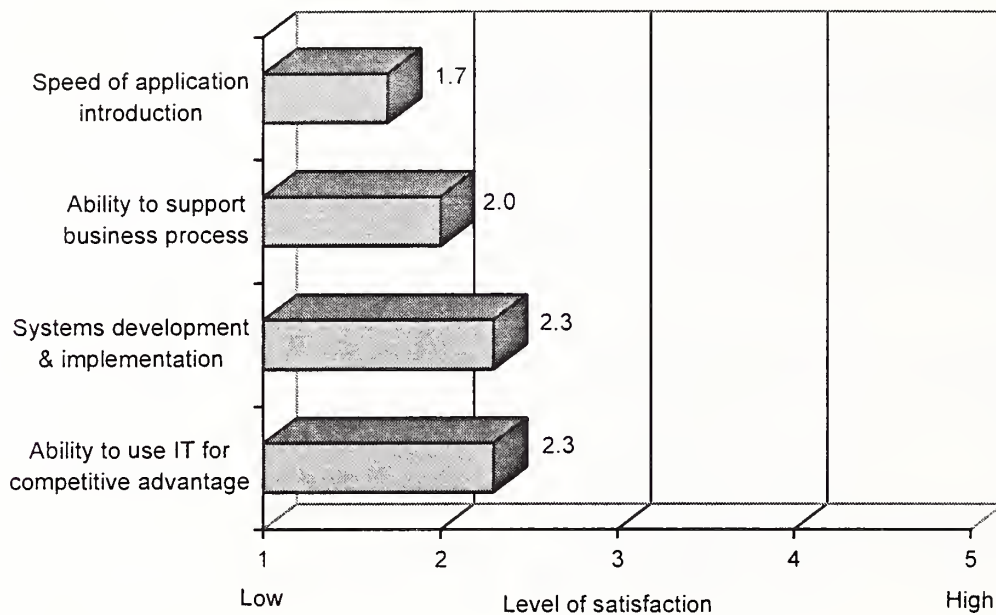
Sample of 4 respondents. Standard error = 0.5   *Source: INPUT*

IT departments within the wholesale sector are perceived to have a strong business orientation and understanding but, as elsewhere, to lack the ability to translate this understanding into innovative systems and to implement new systems rapidly and effectively.

Exhibit IV-46 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-46
Importance vs. Satisfaction with IT Functions Performed In-house

OSMR Function	Importance	Satisfaction	Difference
Day-to-day support of LANs	4.0	3.0	1.0
Day-to-day support of the desktop environment	4.5	3.5	1.0
Day-to-day operation of datacentres	3.8	3.3	0.5
Provision and support for wide area connectivity	3.3	2.8	0.5
New system development	3.8	3.3	0.5
Support of branch locations	3.3	2.8	0.5
Application selection and integration	3.0	2.8	0.2
Maintenance of well-established applications	3.3	3.8	-0.5

Source: INPUT

This suggests that the major opportunities within the wholesale sector will be related to IT infrastructure management. Overall, there are signs of a significant need for datacentre management in addition to desktop services and wide area network management.

Exhibit IV-47 indicates the relative extent to which managers perceive it is necessary to perform each of the IT functions in-house.

Exhibit IV-47

Perceived Necessity of Performing Function In-house

OSMR

Support of branch locations — 3.0

Application selection and integration — 3.0

Day-to-day support of the desktop environment — 3.0

Day-to-day support of LANs — 3.0

Day-to-day operation of datacentres — 3.0

Maintenance of well-established applications — 3.5

New system development — 3.5

Provision and support for wide area connectivity — 4.0

| 1 | 2 | 3 | 4 | 5 |

Low — Necessity of performing In-house — High
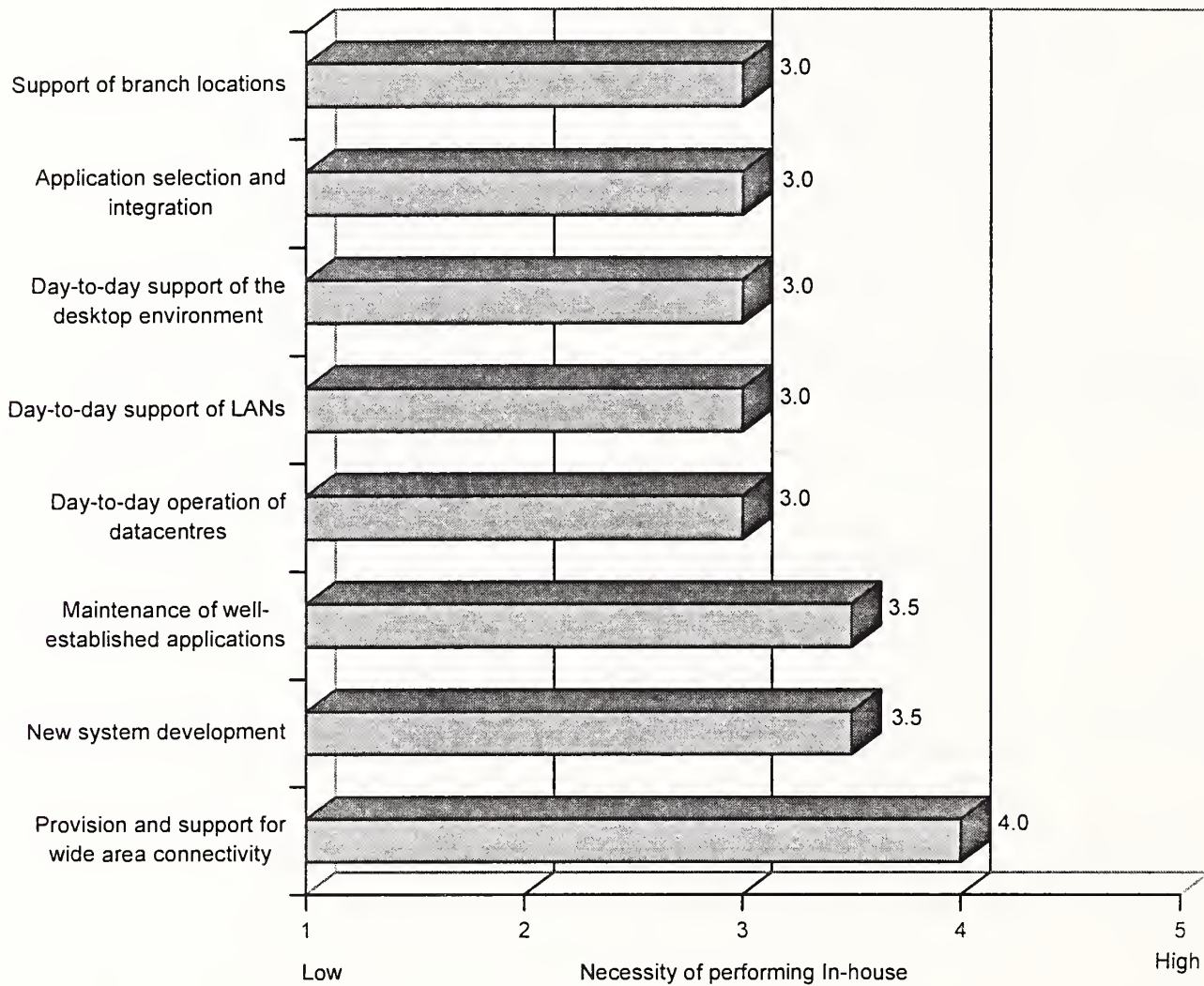
Sample of 88 respondents. Standard error = 0.1

Source: INPUT

OSMR

H

Transportation —High Propensity to Outsource IT Functions

Exhibit IV-48 lists the principal business pressures on the European transportation sector, and Exhibit IV-49 identifies key areas for action in this sector.

Exhibit IV-48

Principal Business Pressures: Transportation

Pressure	Value
Need for improved international coverage	4.3
Cost competition	4.2
Need for improved interworking with major customers	3.9
Need to improve customer service levels	3.8
Need for improved support of international activities	3.6
Competition for distribution channels	3.1
Need to speed up introduction of new models/services	3.1
Need to introduce new models/services	2.8
Need for improved partnerships with major suppliers	2.7
Product obsolescence	1.9

1 — None   2   3 — Extent of pressure   4   5 — Very strong

Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

Exhibit IV-49

Key Actions: Transportation

Action	Value
Improve customer service	4.3
Continue to reduce cost of business processes	4.2
Become more efficient	3.8
Increase flexibility of business processes	3.7
Improve effectiveness of business processes	3.2
Outsource non-core activities	3.0
Increase speed of introduction of products/services	3.0
Increase core business focus	2.8
Outsource inadequately performed core activities	2.6
Undergo major restructuring or downsizing	2.2
Reduce internal headcount	1.8

Scale: 1 None — 3 Need for action — 5 Very strong

Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

Organisations in the transportation sector want to improve their customer service capability on an international basis by increasing the flexibility of their business processes. Simultaneously, they perceive a need to reduce their internal costs.

The most important IT challenges facing organisations in the transportation sector are listed in Exhibit IV-50 and the least important challenges in Exhibit IV-51.

Exhibit IV-50

Most Important IT Challenges: Transportation

To increase its effectiveness in applying IT to the business	4.4
To aggressively use IT for competitive advantage	4.0
To become more cost-effective in its use of IT	3.8
To adopt a more distributed IT infrastructure	3.6
To improve the focus of the IT department	3.3
To reduce its expenditure on IT	3.3

1   2   3   4   5

Not at all important   Importance   Very important
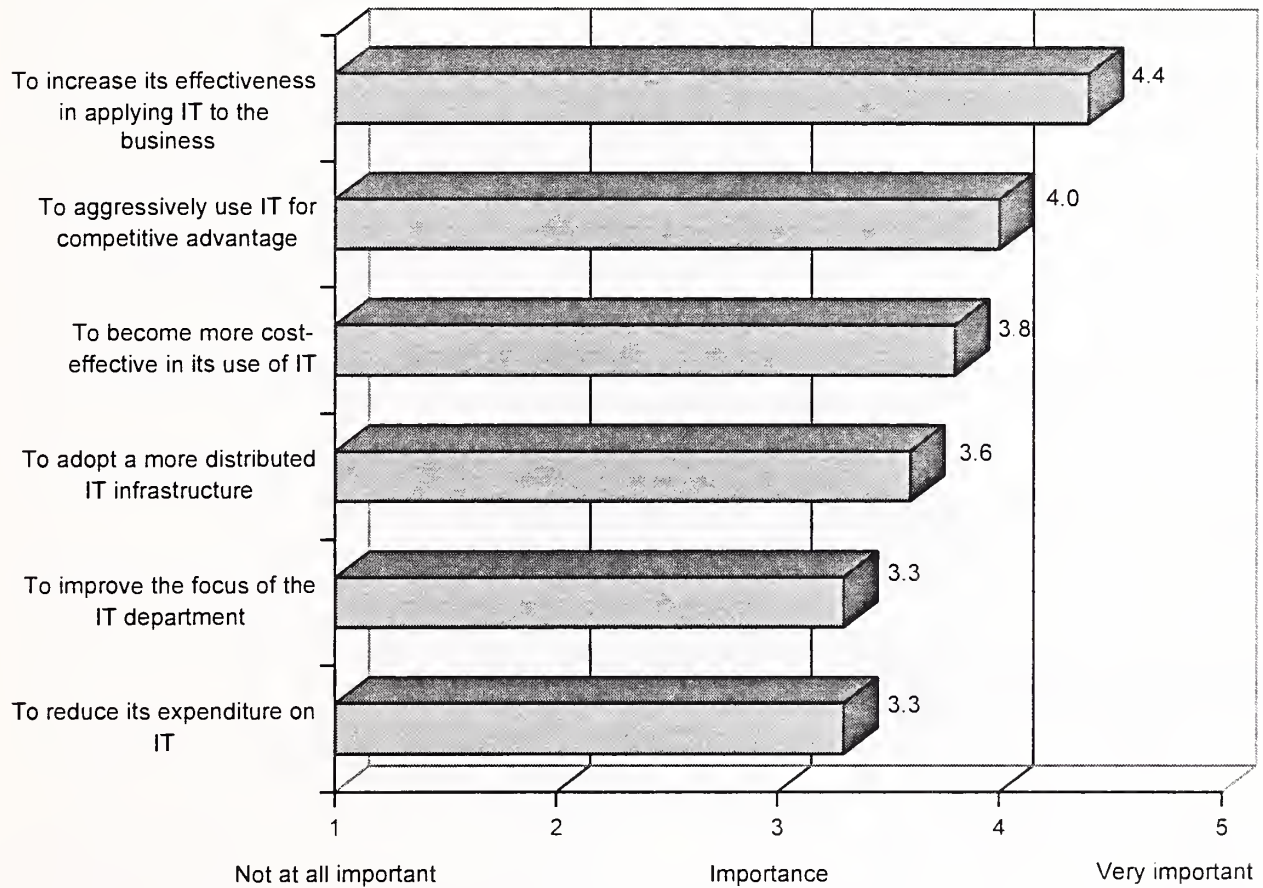
Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

Exhibit IV-51

Least Important IT Challenges: Transportation

To replace existing mainframe-based systems	2.4
To increase its use of IT	2.8
To undertake redevelopment of key systems	2.9
To improve international IT coordination	3.0
To fundamentally change its IT architecture	3.0

1   2   3   4   5

Not at all important   Importance   Very important
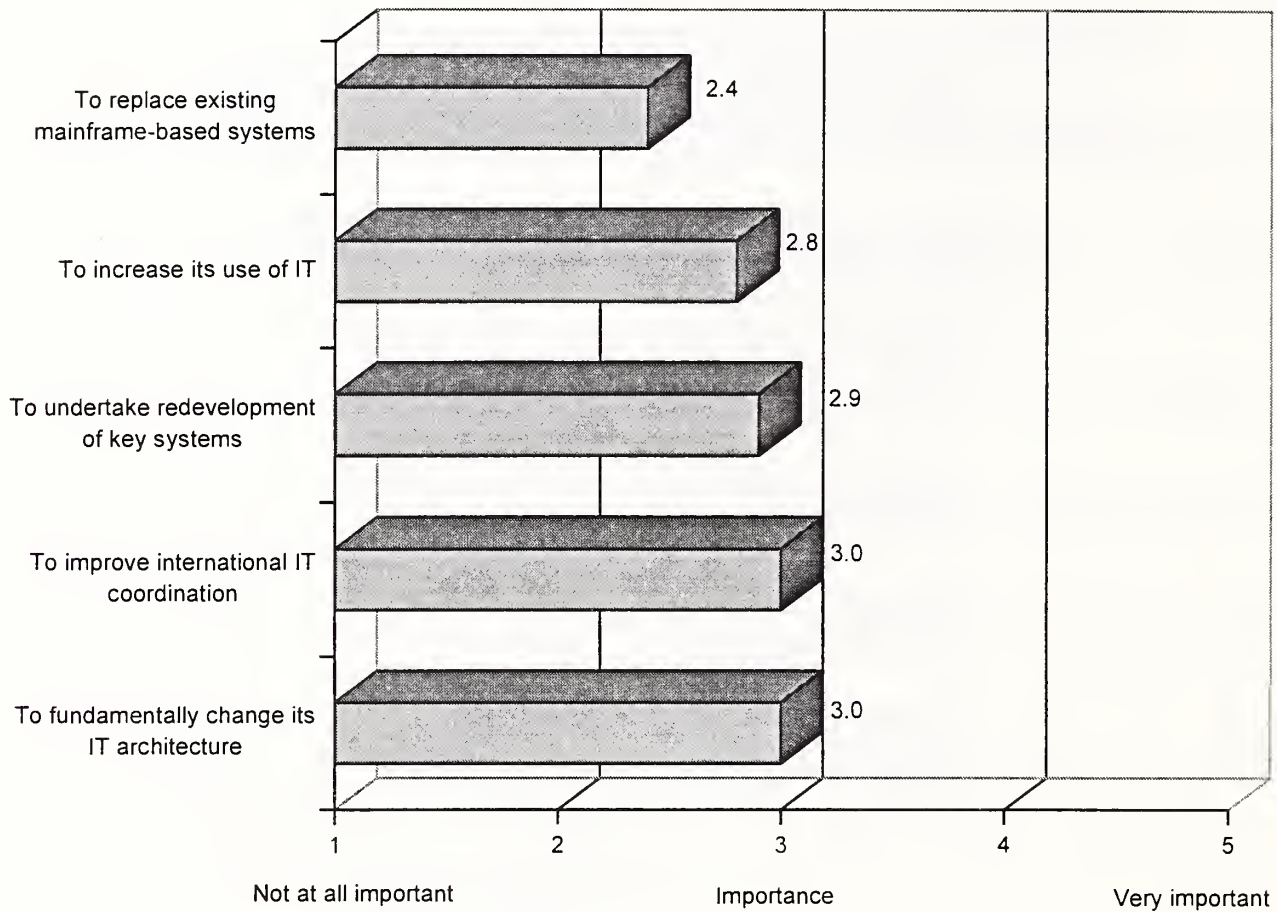
Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

Organisations perceive the key to meeting their goals as improved and more outward-facing application of IT. However, this is not typically expected to be achieved by increasing the use of IT.

Exhibit IV-52 lists the most satisfactory attributes of IT departments belonging to organisations in the transportation sector and Exhibit IV-53 lists their least satisfactory attributes.

Exhibit IV-52

Areas of Highest Satisfaction: Transportation

Effectiveness in applying IT to the business — 3.8

Business orientation & understanding — 3.7

Pro-active support for the business — 3.6

End-user support — 3.5

Overall cost-effectiveness — 3.5

Low   1   2   3   4   5   High

Level of satisfaction
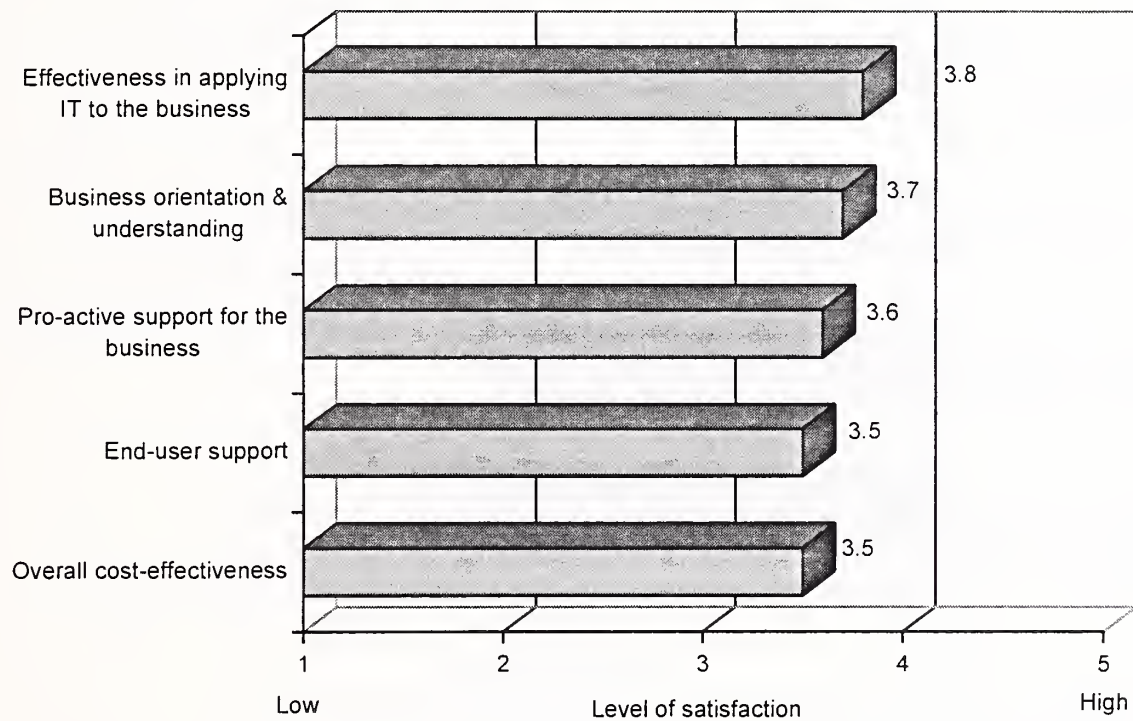
Sample of 11 respondents. Standard error 0.4

Source: INPUT

Exhibit IV-53

Areas of Lowest Satisfaction: Transportation
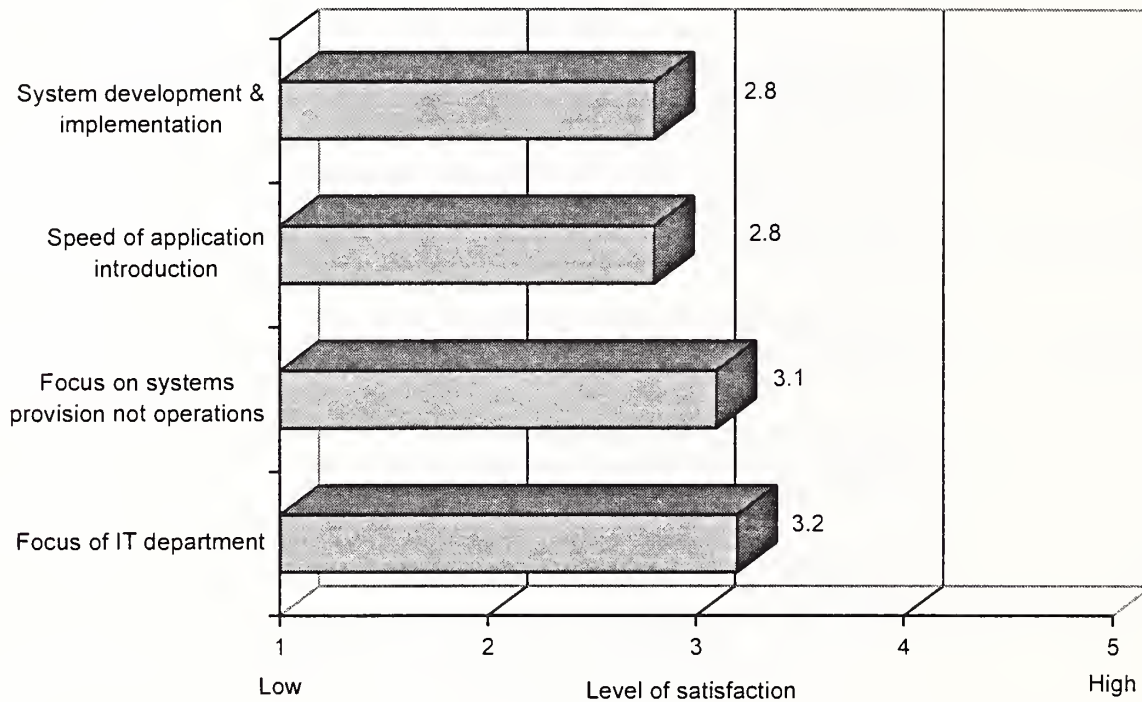
Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

IT departments within the transportation sector receive comparatively high ratings relative to their counterparts in other sectors. Their major weaknesses are perceived to be the speed of introduction of new applications to the organisation and their ability to focus on the provision of new systems rather than operational support for existing systems.

Exhibit IV-54 compares the perceived importance of a number of IT functions with the current level of satisfaction with their performance in-house.

Exhibit IV-54

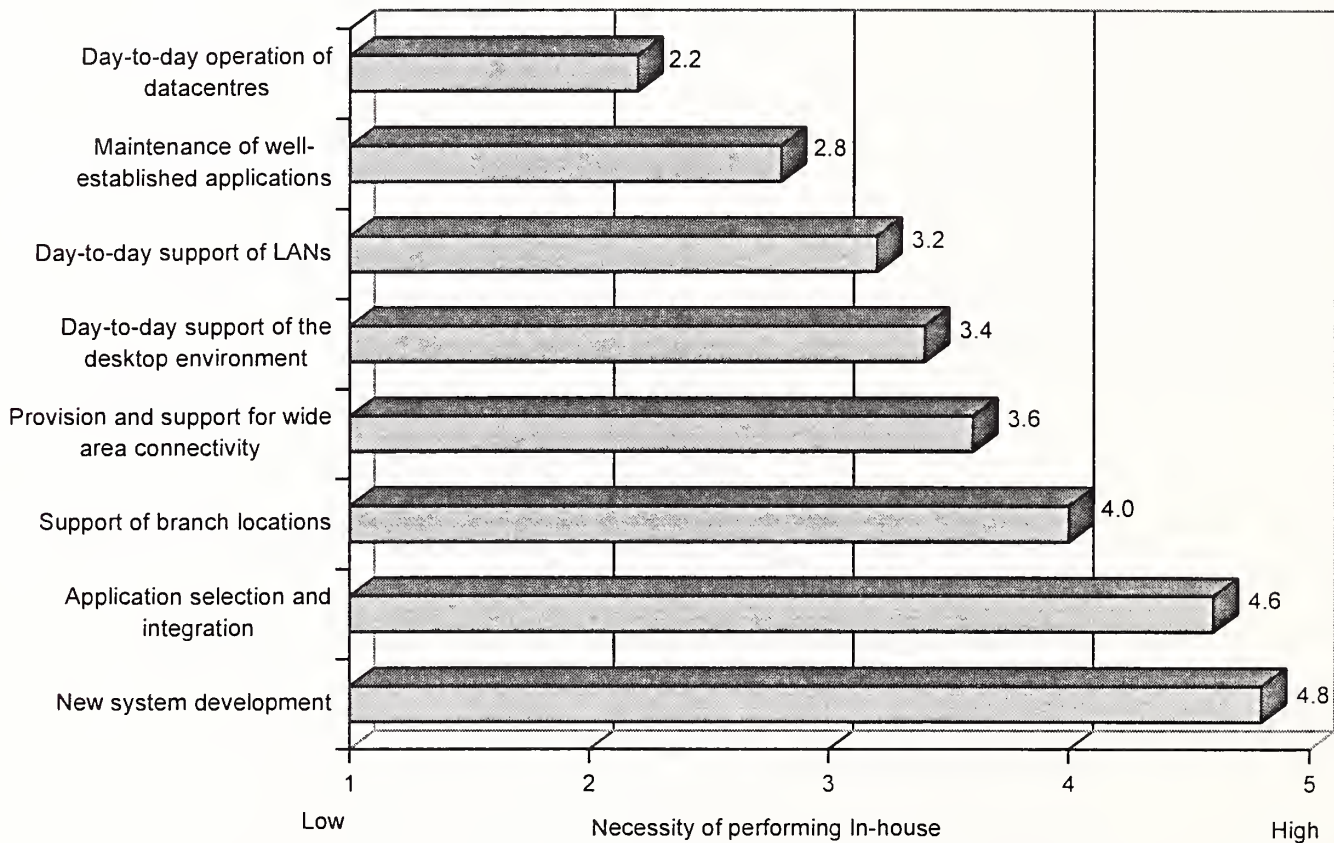## Importance vs. Satisfaction with IT Functions Performed In-house

Function	Importance	Satisfaction	Difference
New system development	4.0	3.0	1.0
Provision and support for wide area connectivity	4.4	3.5	0.9
Application selection and integration	3.9	3.1	0.8
Support of branch locations	4.0	3.3	0.7
Day-to-day support of LANs	3.8	3.3	0.5
Day-to-day support of the desktop environment	3.8	3.4	0.4
Maintenance of well-established applications	3.9	3.5	0.4
Day-to-day operation of datacentres	3.7	3.6	0.1

Source: INPUT

Despite the relatively high perception of the in-house IT departments'
ability to apply IT to the business, there is typically a considerable
shortfall between importance and satisfaction across a wide range of
functions.

Exhibit IV-55 indicates the relative extent to which managers perceive it
to be necessary to perform each of the IT functions in-house.

Exhibit IV-55

Perceived Necessity of Performing Function In-house

OSMR

Application selection and integration — 2.4

New system development — 2.6

Day-to-day operation of datacentres — 2.6

Provision and support for wide area connectivity — 2.7

Day-to-day support of LANs — 2.8

Maintenance of well-established applications — 3.0

Day-to-day support of the desktop environment — 3.0

Support of branch locations — 3.2

1   2   3   4   5

Low   Necessity of performing In-house   High
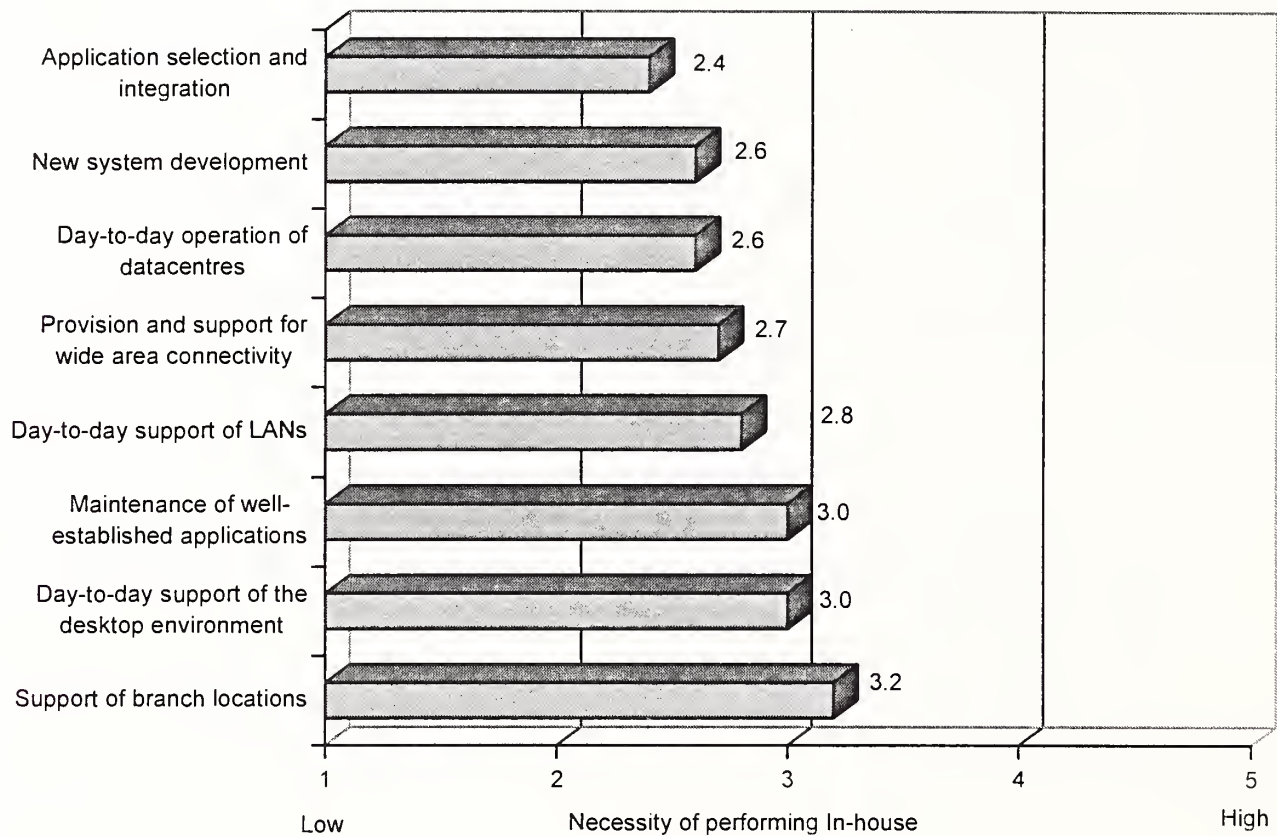
Sample of 11 respondents. Standard error = 0.4   *Source: INPUT*

Overall, organisations in the transportation sector exhibit a high propensity to outsource. In particular, they display a high level of willingness to outsource the selection, development and implementation of new applications.

Consequently, the transportation sector appears to offer major application operations opportunities. Because of its distributed nature, the transportation sector also offers strong opportunities in wide area network management and desktop services.

V
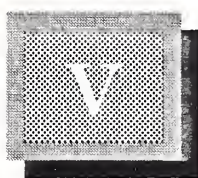
Country Markets

A

France — Strong Growth in Desktop Services

Exhibit V-1 provides a forecast of the outsourcing market in France by delivery mode.

Exhibit V-1

Outsourcing Market, France 1995-2000

	Market Forecast (FF millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	1580	12	1770	10	2900
Desktop Services	520	35	700	29	2500
Network Management	840	10	920	17	2000
Applications Management	260	35	350	26	1100
Applications Operations	2600	18	3070	17	6850
Total IS Outsourcing	5800	17	6810	18	15400

Source: INPUT

Growth in desktop services is especially strong in France. Examples of recent desktop services contracts here include:

- Bull's contract with Elf to manage 4000 PCs across 50 LANs

- Euriware's contract with Institut Français du Pétrole

- Cap Sesa's contract with Scac Delmas Vieljeux.

Exhibit V-2 provides a forecast for the French outsourcing market by industry.

Exhibit V-2

Industry Sector Breakdown, France 1995-2000

V-2	France FFm 1994	Growth 94-95 %	France FFm 1995	Growth 95-00 %	France FFm 2000
Government	480	15	550	22	1500
-Local	20	14	250	25	750
-Central	260	15	300	20	750
Manufacturing	1900	21	2300	17	5000
-Discrete	1160	21	1400	13	2600
-Process	740	22	900	22	2400
Financial Services	1360	21	1650	20	4100
-Banking & Finance	900	22	1100	18	2500
-Insurance	460	20	550	24	1600
Distribution	870	9	950	12	1700
Transportation	290	14	330	15	650
Utilities	400	20	480	22	1300
Other	500	8	540	16	1150
Total Outsourcing	5800	17	6800	18	15400

Source: INPUT

The government sector in France has so far yielded few opportunities for outsourcing vendors. However, the new French government may wish to follow some of the developments that have taken place in the U.K. In particular, they may begin to use external vendors towards the end of the forecast period to improve the cost-effectiveness of IT in central government.

As elsewhere in Europe, the major financial services institutions have been reluctant to enter into full-scale datacentre management and applications operations contracts with external vendors. However, a number of the French outsourcing vendors are predominantly owned by major financial institutions.

In particular, the financial services industry in France makes considerable use of processing services such as card-processing and electronic funds transfer from vendors such as Sligos and Axime, and there is potential for these types of service to develop into business operations contracts involving a wider range of billing and revenue collection activities.

Historically, there have been higher levels of activity in the distribution and transportation sectors in France than in the other major European countries.

B

Central Europe – SAP R/3 Outsourcing Emerges in Germany

Exhibit V-3 provides a forecast of the outsourcing market in Germany by delivery mode.

Exhibit V-3

Outsourcing Market, Germany 1995-2000

	Market Forecast (DM millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	100	15	115	11	200
Desktop Services	105	40	145	31	570
Network Management	185	10	200	14	390
Applications Management	33	35	45	26	140
Applications Operations	275	80	495	25	1500
Total IS Outsourcing	700	44	1000	23	2800
SAP Outsourcing	540	11	600	10	960

Source: INPUT

Exhibit V-4 provides a forecast for the German outsourcing market by industry. The total outsourcing figure shown in this exhibit includes SAP outsourcing.

Exhibit V-4

Industry Sector Breakdown, Germany 1995-2000

V-4	Germany DM 1994	Growth 94-95 %	Germany DM 1995	Growth 95-00 %	Germany DM 2000
Government	55	27	70	38	350
-Local	25	40	35	42	200
-Central	30	17	35	34	150
Manufacturing	550	18	650	15	1300
-Discrete	360	14	410	13	750
-Process	190	26	240	18	550
Financial Services	375	47	550	18	1250
-Banking & Finance	200	25	250	21	650
-Insurance	175	71	300	15	600
Distribution	70	21	85	21	220
Transportation	30	33	40	25	120
Utilities	120	21	145	25	450
Other	50	20	60	0	60
Total Outsourcing	1250	28	1600	19	3750

Source: INPUT

The industry sector forecast for Germany includes an additional area: the SAP outsourcing activity there. While INPUT classifies much of the traditional SAP R/2 outsourcing activity as a processing service, SAP outsourcing is widely regarded as a form of outsourcing in Germany. Indeed SAP outsourcing is gradually changing from a mainframe-based processing service to a form of client/server systems management. The first contracts for SAP R/3 outsourcing began to appear in Germany towards the end of 1994. These contracts will increasingly be characterised by remote management of a distributed systems environment and have much in common with other client/server management contracts.

At present, most of the R/3 outsourcing contracts in Germany are arising out of organisations switching from non-SAP environments to R/3.

However, the market for SAP outsourcing will receive a significant boost once a significant number of organisations begin to make the transition from R/2 to R/3 in earnest.

The manufacturing sector has tended to dominate the outsourcing market in Germany and, as elsewhere, still has considerable growth potential. However, there will also be significant future growth in the financial services sector. IBM Systeme und Netze has already won a major contract with the insurance company Gothaer Versicherungen AG valued at approximately $700m over 10 years.

It is still unclear whether or not the German government will adopt outsourcing to improve the efficiency and effectiveness of IT within government departments. Accordingly, the assumption made in the forecast shown above is that one major government department will outsource its IT by the year 2000.

Exhibit V-5 provides a forecast of the outsourcing market in Austria by delivery mode.

Exhibit V-5

Outsourcing Market, Austria 1995-2000

	Market Forecast (Sch millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	45	15	52	12	90
Desktop Services	45	20	55	27	180
Network Management	45	10	50	14	95
Applications Management	20	10	22	21	57
Applications Operations	120	20	145	19	340
Total IS Outsourcing	280	15	320	19	760

Source: INPUT

Exhibit V-6 provides a forecast of the outsourcing market in Switzerland by delivery mode.

Exhibit V-6

Outsourcing Market, Switzerland 1995-2000

	Market Forecast (SF millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	23	18	27	15	55
Desktop Services	15	20	18	28	62
Network Management	11	10	12	14	23
Applications Management	6	10	7	20	15
Applications Operations	65	20	78	22	210
Total IS Outsourcing	120	18	142	21	370

Source: INPUT

C

Great Britain – Private Finance Initiative Further Boosts U.K. Public Sector Outsourcing

Exhibit V-7 provides a forecast of the outsourcing market in the United Kingdom by delivery mode.

Exhibit V-7

Outsourcing Market, United Kingdom 1995-2000

	Market Forecast (UK £ millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	220	12	245	9	380
Desktop Services	85	30	110	24	325
Network Management	90	10	100	17	215
Applications Management	45	30	60	24	170
Applications Operations	490	35	660	22	1780
Total IS Outsourcing	925	27	1200	20	2900
Business Operations	95	32	125	29	450
Total Outsourcing	1020	27	1300	21	3350

Source: INPUT

Exhibit V-8 provides a forecast for the U.K. outsourcing market by industry.

Exhibit V-8

Industry Sector Breakdown, United Kingdom 1995-2000

OSMR	UK £m 1994	Growth 94-95 %	UK £m 1995	Growth 95-00 %	UK £m 2000
Government	380	38	525	22	1400
-Local	160	25	200	25	600
-Central	150	67	250	21	650
-Health	70	7	75	15	150
Manufacturing	370	16	430	16	920
-Discrete	230	13	260	16	550
-Process	140	21	170	17	370
Financial Services	140	21	170	29	600
-Banking & Finance	100	15	115	28	400
-Insurance	40	38	55	29	200
Distribution	55	18	65	23	180
Transportation	0		10	41	55
Utilities	50	0	50	10	80
Other	25	100	50	18	115
Total Outsourcing	1020	27	1300	21	3350

Source: INPUT

The public sector continues to grow rapidly in the U.K.. However the pattern of growth in 1994 was different from that in 1993. In 1993, growth in the public sector outsourcing market in the U.K. was dominated by the local government sector, with vendors such as CFM and Capita Group showing very high levels of growth.

However, in 1994, the growth in outsourcing within the local government sector slowed down. This is probably a short-term phenomenon in response to a relaxing of the timetable for Compulsory Competitive Tendering (CCT). The new timetable will encourage renewed activity in local government outsourcing from 1996 onwards, with all authorities expected to have undergone CCT by early 1999.

However, this relaxation of growth in the local government sector has been more than compensated for by a high level of activity within central government departments. Following the outsourcing of the IT Office of the Inland Revenue, a number of other major government departments have now outsourced IT functions, including the Department of Trade & Industry, the Home Office, and, in 1995, the Department of Social Security.

The level of outsourcing in central government looks certain to remain high, at least during the lifetime of the present government. Indeed, the government has firmly placed the emphasis within the public sector on outsourcing contracts rather than systems integration projects with the launch of the Private Finance Initiative. The emphasis within this initiative is on substituting government-funded projects with the supply of ongoing services, where the supplier invests the initial capital and shares the commercial risk of the service with the public sector purchaser.

Any government department submitting a bid for funding for a major IT project to the Treasury is likely to be requested to redraft its proposals so as to invite tenders for ongoing services within the framework of the Private Finance Initiative.

This initiative will also have a major impact on the future procurement of services within the health sector.

The manufacturing sector continues to produce major applications operations contracts. Following its contract with British Aerospace, CSC recently won a major contract with Autoglass and seems certain to capture a major deal with Lucas industries, EDS having failed to agree terms with the company. In addition, the company has won a major downsizing contract with ICI Paints.

Much of the new activity in the desktop services and application management markets arises in the financial services sector. Traditionally, the financial services sector in the U.K. has been reluctant to undergo major platform operations and applications operations contracts, with the exception of a few downsizing exercises such as that at the Bank of England. However, it is now a time of considerable transition in the insurance sector in the U.K. and this is beginning to create new types of opportunity for outsourcing vendors.

Much of the redevelopment of systems in the U.K. utilities sector has already taken place. However, British Gas has recently announced a major contract to phase out a number of mainframe datacentres over a period of 18 months.

Exhibit V-9 provides a forecast of the outsourcing market in Ireland by delivery mode.

Exhibit V-9

Outsourcing Market, Ireland 1995-2000

	Market Forecast (IR £ millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	5	18	6	15	12
Desktop Services	1	25	1	28	4
Network Management	1	10	1	14	2
Applications Management	0	10	0	20	0
Applications Operations	3	20	4	19	9
Total IS Outsourcing	10	20	12	18	27

Source: INPUT

D

Southern Europe – Outsourcing in Italy Boosted by Major Insurance Sector Contract

Exhibit V-10 provides a forecast of the outsourcing market in Italy by delivery mode.

Exhibit V-10

Outsourcing Market, Italy 1995-2000

	Market Forecast (Lira Billions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	115	15	130	11	225
Desktop Services	65	35	90	28	300
Network Management	60	10	65	14	130
Applications Management	30	10	33	20	80
Applications Operations	250	40	350	22	940
Total IS Outsourcing	520	29	670	20	1700

Source: INPUT

Exhibit V-11 provides a forecast for the Italian outsourcing market by industry.

Exhibit IV-11

Industry Sector Breakdown, Italy 1995-2000

	Italy Lbn 1994	Growth 94-95 %	Italy Lbn 1995	Growth 95-00 %	Italy Lbn 2000
Government	160	13	180	23	500
-Local	90	11	100	25	300
-Central	70	14	80	20	200
Manufacturing	150	27	190	21	500
-Discrete	80	25	100	20	250
-Process	70	29	90	23	250
Financial Services	140	64	230	16	480
-Banking & Finance	120	8	130	17	280
-Insurance	20	400	100	15	200
Distribution	15	20	18	23	50
Transportation	15	13	17	24	50
Utilities	15	20	18	31	70
Other	25	-32	17	24	50
Total Outsourcing	520	29	670	20	1700

Source: INPUT

EDS strengthened its position in the outsourcing market in Italy in 1993 with the acquisition of the S&M Group. Having acquired local contacts, EDS was rewarded at the end of 1994 with a $400m contract over 10 years with INA, the insurance company. The S&M Group focused largely on the financial services sector.

This deal may set an example that will be subsequently followed by Italian banks. In Italy, many of the banks still show a preference for taking a shareholding in their outsourcing vendor and limiting the outsourcing vendor's customer base within their sector. Nonetheless, vendors such as EDS and CSC are prepared to limit their involvement in a particular sector and region in return for a major applications operations contract. At the same time, vendors such as these can offer the client an injection of leading edge process and technology capability and the acquisition of their captive supplier.

It is likely that one of the leading vendors will succeed with this approach with one of the major Italian banking institutions.

However, it is also probable that there will be considerable growth in outsourcing within the Italian manufacturing sector. The manufacturing sector tends to be one of the early adopters of outsourcing in each country and is being strongly targeted in Italy by vendors such as IBM ISSC and EDS.

Exhibit V-12 provides a forecast of the outsourcing market in Greece by delivery mode.

Exhibit V-12

Outsourcing Market, Greece 1995-2000

	Market Forecast (Dra millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	230	18	270	15	550
Desktop Services	80	20	95	27	315
Network Management	150	10	165	14	315
Applications Management	0	10	0	20	0
Applications Operations	550	20	660	19	1550
Total IS Outsourcing	1000	19	1200	18	2750

Source: INPUT

E

Scandinavia Shows High Desktop Services Potential

Exhibit V-13 provides a forecast of the outsourcing market in Sweden by delivery mode.

Exhibit V-13

Outsourcing Market, Sweden 1995-2000

	Market Forecast (SK millions)				
	1994	**Growth 94-95 (%)**	**1995**	**Growth 1995-2000 (%)**	**2000**
Platform Operations	500	18	590	15	1200
Desktop Services	390	35	530	25	1600
Network Management	150	10	165	17	360
Applications Management	145	10	160	21	410
Applications Operations	1250	20	1500	18	3400
Total IS Outsourcing	2450	20	2950	19	6900

Source: INPUT

Exhibit IV-14 provides a forecast for the Swedish outsourcing market by industry.

Exhibit IV-14

Industry Sector Breakdown, Sweden 1995-2000

	Sweden SKm 1994	Growth 94-95 %	Sweden SKm 1995	Growth 95-00 %	Sweden SKm 2000
Government	1000	20	1200	17	2600
-Local	450	11	500	11	850
-Central	300	33	400	22	1100
-Health	250	20	300	17	650
Manufacturing	370	19	440	29	1600
-Discrete	200	25	250	29	900
-Process	150	27	190	30	700
Financial Services	90	33	120	53	1000
-Banking & Finance	60	33	80	50	600
-Insurance	30	33	40	58	400
Distribution	700	21	850	3	1000
Transportation	170	18	200	5	250
Utilities	50	20	60	33	250
Other	70	14	80	20	200
Total Outsourcing	2450	20	2950	19	6900

Source: INPUT

Sweden is characterised by an industry breakdown more similar to that found in the UK with a considerable emphasis on public sector outsourcing. In particular, there is a significant market in the local government sector, and the health sector is, at present, a better established opportunity in Sweden than in the U.K.

Again, the manufacturing sector represents a major opportunity now with the financial services sector slower to respond to the trend towards outsourcing. However, this sector remains a major source of opportunity over the next few years.

One of the characteristics of the Swedish outsourcing market is the relatively large size of the market in the distribution sector. In part, this is due to KF's considerable contract with EDS, but the market is not confined to this single contract.

Exhibit V-15 provides a forecast of the outsourcing market in Denmark by delivery mode.

Exhibit V-15

Outsourcing Market, Denmark 1995-2000

	Market Forecast (DK millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	60	15	70	12	125
Desktop Services	55	30	70	25	220
Network Management	23	10	25	14	50
Applications Management	25	10	30	20	70
Applications Operations	110	15	125	16	265
Total IS Outsourcing	270	18	320	18	725

Source: INPUT

Exhibit V-16 provides a forecast of the outsourcing market in Finland by delivery mode.

Exhibit V-16

Outsourcing Market, Finland 1995-2000

	Market Forecast (FM millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	110	15	127	12	225
Desktop Services	25	30	33	22	88
Network Management	38	10	42	14	80
Applications Management	7	10	8	20	20
Applications Operations	185	15	213	16	450
Total IS Outsourcing	365	15	420	15	860

Source: INPUT

Exhibit V-17 provides a forecast of the outsourcing market in Norway by delivery mode.

Exhibit V-17

Outsourcing Market, Norway 1995-2000

OSMR	Market Forecast (NK millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	90	15	105	12	185
Desktop Services	50	30	65	25	200
Network Management	30	10	33	14	65
Applications Management	25	10	28	20	70
Applications Operations	125	15	145	16	305
Total IS Outsourcing	320	16	375	17	820

Source: INPUT

F

Benelux

Exhibit V-18 provides a forecast of the outsourcing market in Belgium by delivery mode.

Exhibit V-18

Outsourcing Market, Belgium 1995-2000

	Market Forecast (BF millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	1000	15	1150	12	2050
Desktop Services	190	35	260	28	880
Network Management	150	10	165	17	360
Applications Management	100	15	115	26	365
Applications Operations	2000	15	2300	19	5500
Total IS Outsourcing	3400	17	4000	18	9150

Source: INPUT

Exhibit V-19 provides a forecast of the outsourcing market in the Netherlands by delivery mode.

Exhibit V-19

Outsourcing Market, Netherlands 1995-2000

	Market Forecast (Dfl millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	80	17	95	14	185
Desktop Services	70	35	95	28	325
Network Management	30	10	33	14	65
Applications Management	45	20	55	27	180
Applications Operations	140	15	160	19	385
Total IS Outsourcing	365	19	435	21	1150

Source: INPUT

G

Iberia

Exhibit V-20 provides a forecast of the outsourcing market in Spain by delivery mode.

Exhibit V-20

Outsourcing Market, Spain 1995-2000

	Market Forecast (Ptas millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	3900	17	4550	14	8900
Desktop Services	800	20	960	28	3300
Network Management	2900	10	3200	17	7000
Applications Management	700	10	770	21	2000
Applications Operations	3700	20	4450	22	12000
Total IS Outsourcing	12000	16	13930	19	33200

Source: INPUT

Exhibit V-21 provides a forecast of the outsourcing market in Portugal by delivery mode.

Exhibit V-21

Outsourcing Market, Portugal 1995-2000

OSMR	Market Forecast (Esc millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	405	18	480	15	960
Desktop Services	320	20	385	27	1250
Network Management	145	10	160	14	310
Applications Management	460	10	500	20	1250
Applications Operations	605	20	725	19	1700
Total IS Outsourcing	1935	16	2250	19	5500

Source: INPUT

H

Eastern Europe – Slow to Adopt Outsourcing

Exhibit V-22 provides a forecast of the outsourcing market in Eastern Europe by delivery mode.

Exhibit V-22

Outsourcing Market, Eastern Europe 1995-2000

	Market Forecast (US$ millions)				
	1994	Growth 94-95 (%)	1995	Growth 1995-2000 (%)	2000
Platform Operations	9	35	12	23	35
Desktop Services	3	30	4	32	15
Network Management	3	10	3	17	7
Applications Management	0	15	0	24	0
Applications Operations	8	35	11	15	22
Total IS Outsourcing	23	31	30	21	80

Source: INPUT

While Eastern Europe has in recent years become one of the largest European markets for systems integration, the region has yet to develop a widespread acceptance of IS outsourcing.

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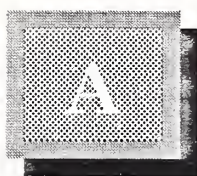
Market Forecasts in Local Currencies

Exhibits A-1 to A-17 present detailed IS outsourcing market forecasts for individual countries in their respective currencies. The exchange rates used are listed in Appendix E.

Exhibit A-1

Information Systems Outsourcing Market, Austria 1995-2000

Delivery Modes	Sch Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	165	19	195	230	290	335	380	435	17
- Platform Operations	45	15	52	60	67	75	85	90	12
- Application Operations	120	20	145	175	225	260	300	340	19
Desktop Services	45	20	55	65	80	105	135	180	27
Network Management	45	10	50	55	60	70	80	95	14
Application Management	20	10	22	25	30	35	45	57	21
Total IS Outsourcing	280	15	320	380	460	540	640	760	9

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.　　*Source: INPUT*

Exhibit A-2

Information Systems Outsourcing Market, Belgium 1995-2000

Delivery Modes	BF Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	3000	15	3450	4000	4600	5400	6350	7500	17
- Platform Operations	1000	15	1150	1300	1500	1650	1850	2050	12
- Application Operations	2000	15	2300	2650	3100	3750	4500	5500	19
Desktop Services	190	35	260	335	435	565	700	880	28
Network Management	150	10	165	180	210	240	290	360	17
Application Management	100	15	115	140	175	225	290	365	26
Total IS Outsourcing	3400	17	4000	4620	5430	6450	7650	9150	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-3

Information Systems Outsourcing Market, Denmark 1995-2000

Delivery Modes	DK Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	170	15	195	225	255	295	340	390	15
- Platform Operations	60	15	70	80	90	100	110	125	12
- Application Operations	110	15	125	145	165	195	230	265	16
Desktop Services	55	30	70	95	120	150	180	220	25
Network Management	23	10	25	28	30	35	40	50	14
Application Management	25	10	30	30	35	42	52	70	20
Total IS Outsourcing	270	18	320	375	440	525	615	725	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-4

Information Systems Outsourcing Market, Finland 1995-2000

Delivery Modes	FM Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	295	15	340	390	445	515	590	675	15
- Platform Operations	110	15	127	145	165	185	205	225	12
- Application Operations	185	15	213	245	280	330	385	450	16
Desktop Services	25	30	33	40	50	60	73	88	22
Network Management	38	10	42	45	50	58	67	80	14
Application Management	7	10	8	8	10	12	15	20	20
Total IS Outsourcing	365	15	420	485	560	645	745	860	15

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-5

Information Systems Outsourcing Market, France 1995-2000

Delivery Modes	FF Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	4180	16	4850	5700	6700	7600	8600	9750	15
- Platform Operations	1580	12	1770	2000	2200	2450	2700	2900	10
- Application Operations	2600	18	3070	3750	4500	5150	5900	6850	17
Desktop Services	520	35	700	950	1250	1600	2000	2500	29
Network Management	840	10	920	1000	1170	1350	1600	2000	17
Application Management	260	35	350	460	600	740	930	1100	26
Total IS Outsourcing	5800	17	6800	8150	9700	11300	13200	15400	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-6

Information Systems Outsourcing Market, Germany 1995-2000

Delivery Modes	DM Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	375	63	610	800	1020	1250	1500	1700	23
- Platform Operations	100	15	115	130	145	165	180	200	11
- Application Operations	275	80	495	670	870	1100	1300	1500	25
Desktop Services	105	40	145	200	270	350	450	570	31
Network Management	185	10	200	225	245	280	325	390	14
Application Management	33	35	45	60	75	95	120	140	26
Total IS Outsourcing	700	44	1005	1280	1600	2000	2380	2800	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-7

Information Systems Outsourcing Market, Greece 1995-2000

Delivery Modes	Dra Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	780	19	930	1100	1250	1435	1850	2100	18
- Platform Operations	230	18	270	320	375	431	500	550	15
- Application Operations	550	20	660	760	875	1004	1350	1550	19
Desktop Services	80	20	95	115	140	187	245	315	27
Network Management	150	10	165	180	200	230	265	315	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	1000	19	1200	1375	1600	1851	2350	2750	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-8

Information Systems Outsourcing Market, Ireland 1995-2000

Delivery Modes	IP Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	8	19	10	11	13	15	18	20	16
- Platform Operations	5	18	6	7	8	9	11	12	15
- Application Operations	3	20	4	4	5	5	7	9	19
Desktop Services	1	25	1	2	2	3	3	4	28
Network Management	1	10	1	1	1	2	2	2	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	10	20	12	14	16	19	23	27	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-9

Information Systems Outsourcing Market, Italy 1995-2000

Delivery Modes	Lira Billions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	365	32	480	600	740	870	1030	1150	19
- Platform Operations	115	15	130	150	170	190	210	225	11
- Application Operations	250	40	350	455	570	680	820	940	22
Desktop Services	65	35	90	115	150	190	240	300	28
Network Management	60	10	65	75	80	92	105	130	14
Application Management	30	10	33	35	40	50	63	80	20
Total IS Outsourcing	520	29	670	830	1000	1200	1440	1700	20

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-10

Information Systems Outsourcing Market, Netherlands 1995-2000

Delivery Modes	Dfl Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	220	16	255	295	340	410	480	570	17
- Platform Operations	80	17	95	110	125	145	165	185	14
- Application Operations	140	15	160	185	220	260	315	385	19
Desktop Services	70	35	95	125	160	210	260	325	28
Network Management	30	10	33	35	40	45	55	65	14
Application Management	45	20	55	70	90	115	145	180	27
Total IS Outsourcing	365	19	435	520	630	775	930	1150	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-11

Information Systems Outsourcing Market, Norway 1995-2000

Delivery Modes	NK Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	215	15	250	285	325	375	430	490	15
- Platform Operations	90	15	105	120	135	150	170	185	12
- Application Operations	125	15	145	165	190	220	260	305	16
Desktop Services	50	30	65	85	110	135	165	200	25
Network Management	30	10	33	36	40	45	53	65	14
Application Management	25	10	28	30	35	42	52	70	20
Total IS Outsourcing	320	16	375	435	510	600	700	820	17

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-12

Information Systems Outsourcing Market, Portugal 1995-2000

OSMR	Esc Millions								
Delivery Modes	**1994**	**94-95 (%)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995-2000 CAGR(%)**
Systems Operations	1010	19	1200	1400	1620	2050	2350	2700	17
- Platform Operations	405	18	480	565	660	760	860	960	15
- Application Operations	605	20	725	835	960	1300	1500	1700	19
Desktop Services	320	20	385	460	555	745	970	1250	27
Network Management	145	10	160	175	190	220	255	310	14
Application Management	460	10	500	560	640	770	960	1250	20
Total IS Outsourcing	1935	16	2250	2600	3000	3800	4500	5500	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-13

Information Systems Outsourcing Market, Spain 1995-2000

	Ptas Millions								
Delivery Modes	**1994**	**94-95 (%)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995-2000 CAGR(%)**
Systems Operations	7600	18	9000	11000	13100	15400	18000	20900	18
- Platform Operations	3900	17	4550	5300	6140	7060	8000	8900	14
- Application Operations	3700	20	4450	5550	7000	8330	10000	12000	22
Desktop Services	800	20	960	1200	1560	2030	2650	3300	28
Network Management	2900	10	3200	3500	4050	4650	5600	7000	17
Application Management	700	10	770	890	1060	1330	1660	2000	21
Total IS Outsourcing	12000	16	13900	16500	19700	23400	27800	33200	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-14

Information Systems Outsourcing Market, Sweden 1995-2000

Delivery Modes	SK Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	1750	19	2100	2500	2950	3450	4000	4600	17
- Platform Operations	500	18	590	700	820	940	1050	1200	15
- Application Operations	1250	20	1500	1800	2120	2500	2950	3400	18
Desktop Services	390	35	530	685	890	1100	1350	1600	25
Network Management	150	10	165	180	210	240	290	360	17
Application Management	145	10	160	185	220	280	350	410	21
Total IS Outsourcing	2450	20	2950	3550	4250	5100	6000	6900	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-15

Information Systems Outsourcing Market, Switzerland 1995-2000

Delivery Modes	SF Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	90	17	105	125	155	190	225	265	20
- Platform Operations	23	18	27	32	37	43	50	55	15
- Application Operations	65	20	78	95	117	145	175	210	22
Desktop Services	15	20	18	23	30	38	50	62	28
Network Management	11	10	12	13	15	17	20	23	14
Application Management	6	10	7	7	8	10	13	15	20
Total IS Outsourcing	120	18	142	170	210	255	310	370	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-16
Information Systems Outsourcing Market, United Kingdom 1995-2000

Delivery Modes	PS Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	710	28	910	1140	1400	1620	1900	2150	19
- Platform Operations	220	12	245	280	300	330	360	380	9
- Application Operations	490	35	660	860	1075	1300	1550	1780	22
Desktop Services	85	30	110	145	180	225	270	325	24
Network Management	90	10	100	110	125	145	175	215	17
Application Management	45	30	60	75	95	120	145	170	24
Total IS Outsourcing	925	27	1200	1450	1800	2100	2500	2900	20

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit A-17
Information Systems Outsourcing Market, Eastern Europe 1995-2000

Delivery Modes	USD Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	17	35	23	28	33	40	47	55	19
- Platform Operations	9	35	12	15	20	25	28	35	23
- Application Operations	8	35	11	12	15	15	20	22	15
Desktop Services	3	30	4	5	7	10	12	15	32
Network Management	3	10	3	3	4	4	5	7	17
Application Management	0	15	0	0	0	0	0	0	24
Total IS Outsourcing	23	31	30	36	45	55	65	80	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

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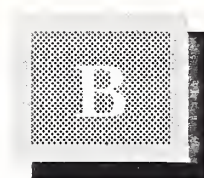
Market Forecasts in ECUs (Millions)

Exhibit B-1 presents the IS outsourcing market forecast for Europe in ECUs. Exhibits B-2 to B-18 present detailed IS outsourcing market forecasts for individual countries in ECUs. The exchange rates used are listed in Appendix E.

Exhibit B-1

Information Systems Outsourcing Market, Europe 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	3826	25	4798	5876	7068	8300	9680	11029	18
- Platform Operations	1274	14	1449	1646	1849	2062	2272	2465	11
- Application Operations	2552	31	3348	4230	5219	6238	7408	8564	21
Desktop Services	598	33	797	1047	1354	1733	2150	2649	27
Network Management	679	10	747	821	929	1069	1263	1557	16
Application Management	284	25	355	444	557	697	860	1047	24
Total IS Outsourcing	5387	24	6696	8188	9909	11799	13953	16282	19

Source: INPUT

Exhibit B-2

Information Systems Outsourcing Market, Austria 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	12	19	15	17	22	25	28	32	17
- Platform Operations	3	15	4	4	5	5	6	7	12
- Application Operations	10	20	10	13	17	20	22	25	19
Desktop Services	3	20	4	5	6	8	10	13	27
Network Management	3	10	4	4	4	5	6	7	14
Application Management	1	10	2	2	2	3	3	4	21
Total IS Outsourcing	20	15	24	28	34	40	48	57	19

Source: INPUT

Exhibit B-3

Information Systems Outsourcing Market, Belgium 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	77	15	88	102	118	139	163	193	17
- Platform Operations	26	15	29	34	38	43	48	52	12
- Application Operations	51	15	59	68	80	96	115	141	19
Desktop Services	5	35	7	9	11	14	18	23	28
Network Management	4	10	4	5	5	6	7	9	17
Application Management	3	15	3	4	4	6	7	9	26
Total IS Outsourcing	87	17	102	118	139	165	196	234	18

Source: INPUT

Exhibit B-4

Information Systems Outsourcing Market, Denmark 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	23	15	26	30	34	40	46	52	15
- Platform Operations	8	15	9	11	12	13	15	16	12
- Application Operations	15	15	17	20	22	26	31	36	16
Desktop Services	7	30	10	12	16	20	24	29	25
Network Management	3	10	3	4	4	5	5	7	14
Application Management	3	10	4	4	5	6	7	9	20
Total IS Outsourcing	36	18	43	50	59	70	82	97	18

Source: INPUT

Exhibit B-5

Information Systems Outsourcing Market, Finland 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	51	15	58	67	77	88	101	116	15
- Platform Operations	19	15	22	25	28	32	35	39	12
- Application Operations	32	15	37	42	48	57	66	77	16
Desktop Services	4	30	6	7	9	10	13	15	22
Network Management	7	10	7	8	9	10	11	14	14
Application Management	1	10	1	1	2	2	3	3	20
Total IS Outsourcing	63	15	72	83	96	111	128	148	15

Source: INPUT

Exhibit B-6

Information Systems Outsourcing Market, France 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	639	16	740	875	1026	1163	1319	1488	15
- Platform Operations	242	12	271	303	339	373	411	444	10
- Application Operations	398	18	469	572	687	790	908	1045	17
Desktop Services	80	35	107	145	188	245	306	383	29
Network Management	128	10	141	155	179	206	247	308	17
Application Management	40	35	54	70	91	113	142	170	26
Total IS Outsourcing	887	17	1042	1245	1484	1727	2013	2349	18

Source: INPUT

Exhibit B-7

Information Systems Outsourcing Market, Germany 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	197	63	321	421	535	658	781	892	23
- Platform Operations	53	15	61	69	77	87	95	103	11
- Application Operations	145	80	261	352	457	572	686	789	25
Desktop Services	55	40	77	104	141	183	238	298	31
Network Management	97	10	107	118	130	149	171	206	14
Application Management	17	35	23	30	40	50	62	74	26
Total IS Outsourcing	368	44	529	673	845	1040	1253	1469	23

Source: INPUT

Exhibit B-8

Information Systems Outsourcing Market, Greece 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	3	19	3	4	4	5	6	7	18
- Platform Operations	1	18	1	1	1	1	2	2	15
- Application Operations	2	20	2	3	3	3	5	5	19
Desktop Services	0	20	0	0	0	1	1	1	27
Network Management	1	10	1	1	1	1	1	1	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	3	19	4	5	5	6	8	9	18

Source: INPUT

Exhibit B-9

Information Systems Outsourcing Market, Ireland 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	10	19	12	14	16	19	23	26	16
- Platform Operations	6	18	7	9	10	12	13	15	15
- Application Operations	4	20	5	5	6	7	9	11	19
Desktop Services	1	25	2	2	3	3	4	5	28
Network Management	1	10	1	2	2	2	2	3	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	13	20	15	18	21	24	29	34	18

Source: INPUT

Exhibit B-10

Information Systems Outsourcing Market, Italy 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	183	32	242	304	371	438	516	586	19
- Platform Operations	58	15	66	76	85	95	105	113	11
- Application Operations	126	40	176	229	286	343	412	473	22
Desktop Services	33	35	44	57	75	97	121	151	28
Network Management	30	10	33	36	40	46	53	64	14
Application Management	15	10	17	18	21	25	31	41	20
Total IS Outsourcing	261	29	336	416	506	606	722	842	20

Source: INPUT

Exhibit B-11

Information Systems Outsourcing Market, Netherlands 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	103	16	120	138	162	191	225	266	17
- Platform Operations	38	17	44	51	59	68	77	86	14
- Application Operations	66	15	76	87	103	123	148	180	19
Desktop Services	33	35	44	58	75	97	122	152	28
Network Management	14	10	15	17	19	22	25	30	14
Application Management	21	20	25	32	41	54	67	84	27
Total IS Outsourcing	171	19	205	245	297	364	438	532	21

Source: INPUT

Exhibit B-12

Information Systems Outsourcing Market, Norway 1995-2000

OSMR	ECU Millions (rounded)								
Delivery Modes	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	26	15	30	34	39	45	52	59	15
- Platform Operations	11	15	12	14	16	18	20	22	12
- Application Operations	15	15	17	20	23	27	31	37	16
Desktop Services	6	30	8	10	13	17	20	24	25
Network Management	4	10	4	4	5	6	6	8	14
Application Management	3	10	3	4	4	5	6	8	20
Total IS Outsourcing	39	16	45	53	61	72	84	99	17

Source: INPUT

Exhibit B-13

Information Systems Outsourcing Market, Portugal 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	5	19	6	7	8	11	12	14	17
- Platform Operations	2	18	2	3	3	4	4	5	15
- Application Operations	3	20	4	4	5	7	8	9	19
Desktop Services	2	20	2	2	3	4	5	6	27
Network Management	1	10	1	1	1	1	1	2	14
Application Management	2	10	3	3	3	4	5	6	20
Total IS Outsourcing	10	16	12	13	15	19	23	28	19

Source: INPUT

Exhibit B-14

Information Systems Outsourcing Market, Spain 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	47	18	56	67	81	95	111	130	18
- Platform Operations	24	17	28	33	38	44	49	55	14
- Application Operations	23	20	28	34	43	52	62	74	22
Desktop Services	5	20	6	7	10	13	16	20	28
Network Management	18	10	20	22	25	29	35	43	17
Application Management	4	10	5	5	7	8	10	12	21
Total IS Outsourcing	74	16	86	102	122	145	172	206	19

Source: INPUT

Exhibit B-15

Information Systems Outsourcing Market, Sweden 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	192	19	229	274	323	378	438	500	17
- Platform Operations	55	18	65	76	89	103	116	130	15
- Application Operations	137	20	165	198	233	275	322	370	18
Desktop Services	43	35	58	75	98	122	147	176	25
Network Management	16	10	18	20	23	26	32	39	17
Application Management	16	10	18	20	24	30	38	45	21
Total IS Outsourcing	269	20	323	389	467	556	654	761	19

Source: INPUT

Exhibit B-16

Information Systems Outsourcing Market, Switzerland 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	56	17	66	79	97	118	140	166	20
- Platform Operations	14	18	17	20	23	27	30	34	15
- Application Operations	41	20	49	59	73	91	110	132	22
Desktop Services	9	20	11	14	18	24	31	39	28
Network Management	7	10	8	8	9	11	12	15	14
Application Management	4	10	4	5	5	6	8	10	20
Total IS Outsourcing	75	18	89	105	129	159	191	229	21

Source: INPUT

Exhibit B-17

Information Systems Outsourcing Market, United Kingdom 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	906	28	1158	1449	1758	2071	2434	2758	19
- Platform Operations	281	12	314	352	387	426	460	488	9
- Application Operations	625	35	844	1097	1371	1645	1974	2271	22
Desktop Services	108	30	141	183	229	286	344	412	24
Network Management	115	10	126	139	160	184	220	276	17
Application Management	57	30	75	97	121	152	182	218	24
Total IS Outsourcing	1180	27	1500	1868	2268	2693	3180	3664	20

Source: INPUT

Exhibit B-18

Information Systems Outsourcing Market, Eastern Europe 1995-2000

Delivery Modes	ECU Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	21	35	28	34	41	49	58	69	19
- Platform Operations	11	35	15	19	23	29	35	42	23
- Application Operations	10	35	13	15	18	20	23	27	15
Desktop Services	4	30	5	6	8	11	15	19	32
Network Management	3	10	4	4	5	5	7	8	17
Application Management	0	15	0	0	0	0	0	0	24
Total IS Outsourcing	28	31	37	44	54	66	80	96	21

Source: INPUT

C
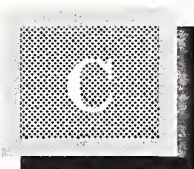
Market Forecasts in U.S. Dollars (Millions)

Exhibit C-1 presents the IS outsourcing market forecast for Europe in U.S. dollars. Exhibits B-2 to B-18 present detailed IS outsourcing market forecasts for individual countries in U.S. dollars. The exchange rates used are listed in Appendix E.

Exhibit C-1

Information Systems Outsourcing Market, Europe 1995-2000

Delivery Modes	US$ Millions								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	3100	25	3900	4800	5750	6750	7900	9000	18
- Platform Operations	1050	14	1200	1350	1500	1680	1850	2000	11
- Application Operations	2080	31	2700	3450	4250	5100	6050	7000	21
Desktop Services	490	33	650	850	1100	1400	1750	2150	27
Network Management	550	10	610	670	750	870	1030	1250	16
Application Management	230	25	290	360	450	570	700	850	24
Total IS Outsourcing	4400	24	5450	6700	8100	9600	11400	13300	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit C-2

Information Systems Outsourcing Market, Austria 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	15	19	18	21	27	31	35	40	17
- Platform Operations	4	15	5	5	6	7	8	8	12
- Application Operations	11	20	13	16	21	24	27	31	19
Desktop Services	4	20	5	6	7	10	13	16	27
Network Management	4	10	5	5	5	6	7	9	14
Application Management	2	10	2	2	3	3	4	5	21
Total IS Outsourcing	26	15	29	35	42	50	59	70	19

Source: INPUT

Exhibit C-3

Information Systems Outsourcing Market, Belgium 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	94	15	108	125	145	170	200	237	17
- Platform Operations	31	15	36	42	47	53	58	64	12
- Application Operations	63	15	72	83	98	118	141	172	19
Desktop Services	6	35	8	10	14	18	22	28	28
Network Management	5	10	5	6	7	8	9	11	17
Application Management	3	15	4	4	5	7	9	11	26
Total IS Outsourcing	107	17	125	145	171	203	240	287	18

Source: INPUT

Exhibit C-4

Information Systems Outsourcing Market, Denmark 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	28	15	32	37	42	49	56	64	15
- Platform Operations	10	15	11	13	15	17	18	20	12
- Application Operations	18	15	21	24	28	32	38	44	16
Desktop Services	9	30	12	15	20	25	30	36	25
Network Management	4	10	4	5	5	6	7	8	14
Application Management	4	10	5	5	6	7	9	11	20
Total IS Outsourcing	44	18	53	62	73	86	101	119	18

Source: INPUT

Exhibit C-5

Information Systems Outsourcing Market, Finland 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	62	15	72	82	94	108	124	142	15
- Platform Operations	23	15	27	31	35	39	43	47	12
- Application Operations	39	15	45	52	59	69	81	95	16
Desktop Services	5	30	7	9	11	13	15	19	22
Network Management	8	10	9	10	11	12	14	17	14
Application Management	1	10	2	2	2	2	3	4	20
Total IS Outsourcing	77	15	89	102	117	136	157	182	15

Source: INPUT

Exhibit C-6

Information Systems Outsourcing Market, France 1995-2000

C-4	US$ Millions (rounded)								
Delivery Modes	**1994**	**94-95 (%)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995-2000 CAGR(%)**
Systems Operations	783	16	906	1072	1257	1425	1615	1822	15
- Platform Operations	296	12	331	371	416	457	503	543	10
- Application Operations	487	18	575	701	841	967	1112	1279	17
Desktop Services	97	35	131	177	231	300	375	469	29
Network Management	157	10	173	190	219	252	302	378	17
Application Management	49	35	66	85	111	139	174	208	26
Total IS Outsourcing	1086	17	1276	1525	1817	2115	2466	2877	18

Source: INPUT

Exhibit C-7

Information Systems Outsourcing Market, Germany 1995-2000

	US$ Millions (rounded)								
Delivery Modes	**1994**	**94-95 (%)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**1995-2000 CAGR(%)**
Systems Operations	242	63	394	516	655	807	957	1093	23
- Platform Operations	65	15	74	85	95	106	117	126	11
- Application Operations	177	80	319	431	560	701	841	967	25
Desktop Services	68	40	95	128	173	225	292	365	31
Network Management	119	10	131	144	159	183	210	252	14
Application Management	21	35	29	37	49	61	76	91	26
Total IS Outsourcing	452	44	648	826	1035	1275	1536	1801	23

Source: INPUT

Exhibit C-8

Information Systems Outsourcing Market, Greece 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	3	19	4	4	5	6	8	9	18
- Platform Operations	1	18	1	1	2	2	2	2	15
- Application Operations	2	20	3	3	4	4	6	6	19
Desktop Services	0	20	0	0	1	1	1	1	27
Network Management	1	10	1	1	1	1	1	1	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	4	19	5	6	7	8	10	11	18

Source: INPUT

Exhibit C-9

Information Systems Outsourcing Market, Ireland 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	12	19	15	17	20	23	28	31	16
- Platform Operations	8	18	9	11	13	14	16	18	15
- Application Operations	5	20	6	6	7	8	11	13	19
Desktop Services	2	25	2	2	3	4	5	7	28
Network Management	2	10	2	2	2	2	3	3	14
Application Management	0	10	0	0	0	0	0	0	20
Total IS Outsourcing	15	20	18	22	25	30	36	42	18

Source: INPUT

Exhibit C-10

Information Systems Outsourcing Market, Italy 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	225	32	298	374	455	538	634	720	19
- Platform Operations	71	15	82	93	104	117	128	139	11
- Application Operations	154	40	216	281	351	421	506	581	22
Desktop Services	40	35	54	70	92	119	149	186	28
Network Management	37	10	41	45	49	57	65	78	14
Application Management	19	10	20	22	26	31	39	50	20
Total IS Outsourcing	321	29	413	512	622	745	887	1035	20

Source: INPUT

Exhibit C-11

Information Systems Outsourcing Market, Netherlands 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	126	16	146	169	198	234	275	326	17
- Platform Operations	46	17	54	63	72	83	94	105	14
- Application Operations	80	15	93	106	126	151	181	221	19
Desktop Services	40	35	54	71	92	119	149	186	28
Network Management	17	10	19	21	23	26	30	36	14
Application Management	26	20	31	39	50	66	82	102	27
Total IS Outsourcing	210	19	251	300	363	445	536	651	21

Source: INPUT

Exhibit C-12

Information Systems Outsourcing Market, Norway 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	32	15	37	42	48	55	63	72	15
- Platform Operations	13	15	15	18	20	22	25	27	12
- Application Operations	18	15	21	24	28	33	38	45	16
Desktop Services	7	30	10	13	16	20	24	29	25
Network Management	4	10	5	5	6	7	8	9	14
Application Management	4	10	4	4	5	6	8	10	20
Total IS Outsourcing	47	16	55	64	75	88	103	121	17

Source: INPUT

Exhibit C-13

Information Systems Outsourcing Market, Portugal 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	6	19	8	9	10	13	15	17	17
- Platform Operations	3	18	3	4	4	5	5	6	15
- Application Operations	4	20	5	5	6	8	9	11	19
Desktop Services	2	20	2	3	3	5	6	8	27
Network Management	1	10	1	1	1	1	2	2	14
Application Management	3	10	3	3	4	5	6	8	20
Total IS Outsourcing	12	16	14	16	19	24	28	34	19

Source: INPUT

Exhibit C-14

Information Systems Outsourcing Market, Spain 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	58	18	68	83	99	117	137	159	18
- Platform Operations	30	17	35	41	47	54	61	68	14
- Application Operations	28	20	34	42	53	63	76	91	22
Desktop Services	6	20	7	9	12	15	20	25	28
Network Management	22	10	24	27	31	35	42	53	17
Application Management	5	10	6	7	8	10	13	15	21
Total IS Outsourcing	91	16	106	125	150	178	212	252	19

Source: INPUT

Exhibit C-15

Information Systems Outsourcing Market, Sweden 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	236	19	281	336	395	463	537	613	17
- Platform Operations	67	18	79	94	110	126	142	160	15
- Application Operations	168	20	202	242	286	337	395	454	18
Desktop Services	52	35	71	92	120	150	180	216	25
Network Management	20	10	22	24	28	32	39	48	17
Application Management	20	10	21	25	30	37	46	56	21
Total IS Outsourcing	330	20	396	477	573	682	802	933	19

Source: INPUT

Exhibit C-16

Information Systems Outsourcing Market, Switzerland 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	69	17	80	96	118	145	171	202	20
- Platform Operations	18	18	21	24	29	33	37	42	15
- Application Operations	50	20	60	71	89	112	134	161	22
Desktop Services	11	20	14	17	22	29	38	47	28
Network Management	8	10	9	10	11	13	15	18	14
Application Management	5	10	5	6	6	8	10	12	20
Total IS Outsourcing	92	18	108	129	158	194	233	280	21

Source: INPUT

Exhibit C-17

Information Systems Outsourcing Market, United Kingdom 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	1111	28	1421	1778	2157	2541	2987	3384	19
- Platform Operations	344	12	386	432	475	523	564	598	9
- Application Operations	767	35	1035	1346	1682	2019	2422	2786	22
Desktop Services	133	30	173	225	281	351	422	506	24
Network Management	141	10	155	170	196	225	270	338	17
Application Management	70	30	92	119	149	186	223	268	24
Total IS Outsourcing	1448	27	1840	2292	2783	3304	3902	4496	20

Source: INPUT

Exhibit C-18

Information Systems Outsourcing Market, Eastern Europe 1995-2000

Delivery Modes	US$ Millions (rounded)								
	1994	94-95 (%)	1995	1996	1997	1998	1999	2000	1995-2000 CAGR(%)
Systems Operations	17	35	23	28	33	40	47	56	19
- Platform Operations	9	35	12	15	19	24	28	34	23
- Application Operations	8	35	11	12	14	16	19	22	15
Desktop Services	3	30	4	5	7	9	12	16	32
Network Management	3	10	3	3	4	4	5	7	17
Application Management	0	15	0	0	0	0	0	0	24
Total IS Outsourcing	23	31	30	36	44	54	65	79	21

Source: INPUT
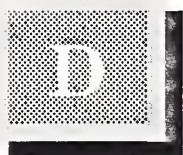
Forecast Reconciliation

Exhibit D-1 shows the reconciliation between the 1994 and 1995 forecasts for Europe. Exhibits B-2 to B-18 present detailed forecast reconciliations for each of the individual countries.

Exhibit D-1

Information Systems Outsourcing Market Forecast Reconciliation, Europe

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) ($m)	1995 Report (Act) ($m)	Variance (Amount) ($m)	Variance (%)	1994 Report (Fcst) ($m)	1995 Report (Fcst) ($m)	Variance (Amount) ($m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	2800	3100	(300)	(11)	6300	7900	(1600)	(25)	18	18
- Platform Operations	930	1050	(120)	(13)	1600	1850	(250)	(16)	11	11
- Application Operations	1900	2080	(180)	(9)	4700	6050	(1350)	(29)	20	21
Desktop Services	400	490	(90)	(23)	1300	1750	(450)	(35)	27	27
Network Management	500	550	(50)	(10)	1000	1030	(30)	(3)	15	16
Application Management	200	230	(30)	(15)	680	700	(20)	(3)	28	24
Total IS Outsourcing	3900	4400	(500)	(13)	9300	11400	(2100)	(23)	19	19

Source: INPUT

In real terms, there is an increase of 2% between last year's IS outsourcing forecast for 1994 and this year's forecast. However, differences in exchange rates show an apparent 11% increase in the market, the net effect being an apparent increase of 13% in the size of the European IS outsourcing market.

The prospects for growth in the European IS outsourcing market remain strong and the growth rates forecast are similar to those forecast last year.

The principal adjustments that have been made to the 1994 forecast are:

- The size of the desktop services market in France has been increased to compensate for higher than expected growth in 1994 in this sector

- The overall size of the IS outsourcing markets in Spain and Finland have been increased following re-appraisals of 1994 vendor revenues in these countries.

Exhibit D-2

Information Systems Outsourcing Market, Forecast Database Reconciliation, Austria

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Sch m)	1995 Report (Act) (Sch m)	Variance (Amount) (Sch m)	Variance (%)	1994 Report (Fcst) (Sch m)	1995 Report (Fcst) (Sch m)	Variance (Amount) (Sch m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	165	165	0	0	355	380	(25)	(7)	16	17
- Platform Operations	45	45	0	0	80	85	(5)	(6)	12	12
- Application Operations	120	120	0	0	275	300	(25)	(9)	18	19
Desktop Services	45	45	0	0	140	135	5	4	25	27
Network Management	45	45	0	0	95	80	15	16	15	14
Application Management	20	20	0	0	60	45	15	25	25	21
Total IS Outsourcing	280	280	0	0	640	640	0	0	18	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-3

Information Systems Outsourcing Market, Forecast Database Reconciliation, Belgium

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (BF m)	1995 Report (Act) (BF m)	Variance (Amount) (BF m)	Variance (%)	1994 Report (Fcst) (BF m)	1995 Report (Fcst) (BF m)	Variance (Amount) (BF m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	3000	3000	0	0	7300	6350	950	13	20	17
- Platform Operations	1000	1000	0	0	1900	1850	50	3	14	12
- Application Operations	2000	2000	0	0	5400	4500	900	17	22	19
Desktop Services	190	190	0	0	700	700	0	0	30	28
Network Management	150	150	0	0	330	290	40	12	17	17
Application Management	100	100	0	0	280	290	(10)	(4)	23	26
Total IS Outsourcing	3400	3400	0	0	8700	7650	1050	12	20	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-4

Information Systems Outsourcing Market Forecast Reconciliation, Denmark

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (DK m)	1995 Report (Act) (DK m)	Variance (Amount) (DK m)	Variance (%)	1994 Report (Fcst) (DK m)	1995 Report (Fcst) (DK m)	Variance (Amount) (DK m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	170	170	0	0	390	340	50	13	18	15
- Platform Operations	60	60	0	0	110	110	0	0	13	12
- Application Operations	110	110	0	0	280	230	50	18	20	16
Desktop Services	55	55	0	0	160	180	(20)	(13)	25	25
Network Management	23	23	0	0	50	40	10	19	17	14
Application Management	25	25	0	0	85	52	33	39	27	20
Total IS Outsourcing	270	270	0	0	680	615	65	10	20	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-5

Information Systems Outsourcing Market Forecast Reconciliation, Finland

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (FM m)	**1995 Report** (Act) (FM m)	Variance (Amount) (FM m)	Variance (%)	**1994 Report** (Fcst) (FM m)	**1995 Report** (Fcst) (FM m)	Variance (Amount) (FM m)	Variance (%)	**Report** CAGR (Fcst)	**Report** CAGR (Fcst)
Systems Operations	230	295	(65)	(28)	480	590	(110)	(23)	16	15
- Platform Operations	85	110	(25)	(29)	150	205	(55)	(37)	12	12
- Application Operations	145	185	(40)	(28)	330	385	(55)	(17)	18	16
Desktop Services	20	25	(5)	(25)	55	73	(18)	(33)	23	22
Network Management	30	38	(8)	(27)	65	67	(2)	(3)	17	14
Application Management	6	7	(1)	(17)	15	15	(0)	(3)	20	20
Total IS Outsourcing	280	365	(85)	(30)	600	745	(145)	(24)	17	15

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-6

Information Systems Outsourcing Market Forecast Reconciliation, France

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (FF m)	1995 Report (Act) (FF m)	Variance (Amount) (FF m)	Variance (%)	1994 Report (Fcst) (FF m)	1995 Report (Fcst) (FF m)	Variance (Amount) (FF m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	4180	4180	0	0	8700	8600	100	1	16	15
- Platform Operations	1580	1580	0	0	2500	2700	(200)	(8)	10	10
- Application Operations	2600	2600	0	0	6200	5900	300	5	19	17
Desktop Services	325	520	(195)	(60)	1100	2000	(900)	(82)	28	29
Network Management	840	840	0	0	1700	1600	100	6	15	17
Application Management	260	260	0	0	800	930	(130)	(16)	25	26
Total IS Outsourcing	5600	5800	(200)	(4)	12300	13200	(900)	(7)	17	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

OSMR   **D-7**

Exhibit D-7

Information Systems Outsourcing Market Forecast Reconciliation, Germany

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (DM m)	1995 Report (Act) (DM m)	Variance (Amount) (DM m)	Variance (%)	1994 Report (Fcst) (DM m)	1995 Report (Fcst) (DM m)	Variance (Amount) (DM m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	375	375	0	0	875	1500	(625)	(71)	18	23
- Platform Operations	100	100	0	0	160	180	(20)	(13)	10	11
- Application Operations	275	275	0	0	715	1300	(585)	(82)	21	25
Desktop Services	105	105	0	0	315	450	(135)	(43)	25	31
Network Management	185	185	0	0	375	325	(50)	(13)	15	14
Application Management	33	33	0	0	120	120	(0)	(0)	30	6
Total IS Outsourcing	700	700	0	0	1690	2380	(690)	(41)	19	23

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

OSMR

Exhibit D-8

Information Systems Outsourcing Market Forecast Reconciliation, Greece

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Dra m)	1995 Report (Act) (Dra m)	Variance (Amount) (Dra m)	Variance (%)	1994 Report (Fcst) (Dra m)	1995 Report (Fcst) (Dra m)	Variance (Amount) (Dra m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	780	780	0	0	1900	1850	50	3	19	18
- Platform Operations	230	230	0	0	1400	500	900	64	15	15
- Application Operations	550	550	0	0	460	1350	(890)	(193)	20	19
Desktop Services	80	80	0	0	230	245	(15)	(7)	25	27
Network Management	150	150	0	0	300	265	35	12	15	14
Application Management	0	0	0	0	0	0	0	(109)		20
Total IS Outsourcing	1000	1000	0	0	2400	2350	50	2	19	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-9

Information Systems Outsourcing Market Forecast Reconciliation, Ireland

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (IP m)	1995 Report (Act) (IP m)	Variance (Amount) (IP m)	Variance (%)	1994 Report (Fcst) (IP m)	1995 Report (Fcst) (IP m)	Variance (Amount) (IP m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	8	8	0	0	26	18	8	30	26	16
- Platform Operations	5	5	0	0	15	11	4	29	25	15
- Application Operations	3	3	0	0	11	7	3	30	28	19
Desktop Services	1	1	0	0	4	3	0	7	30	28
Network Management	1	1	0	0	2	2	0	20	17	14
Application Management	0	0	0	0	0	0	0	(109)	0	20
Total IS Outsourcing	10	10	0	0	32	23	9	27	26	18

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-10

Information Systems Outsourcing Market Forecast Reconciliation, Italy

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Lira B)	1995 Report (Act) (Lira B)	Variance (Amount) (Lira B)	Variance (%)	1994 Report (Fcst) (Lira B)	1995 Report (Fcst) (Lira B)	Variance (Amount) (Lira B)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	365	365	0	0	850	1030	(180)	(21)	18	19
- Platform Operations	115	115	0	0	200	210	(10)	(5)	12	11
- Application Operations	250	250	0	0	650	820	(170)	(26)	21	22
Desktop Services	65	65	0	0	220	240	(20)	(9)	28	28
Network Management	60	60	0	0	130	105	25	(19)	17	14
Application Management	30	30	0	0	95	63	32	(34)	25	20
Total IS Outsourcing	520	520	0	0	1300	1440	(140)	(11)	20	20

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-11

Information Systems Outsourcing Market Forecast Reconciliation, Netherlands

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Dfl m)	1995 Report (Act) (Dfl m)	Variance (Amount) (Dfl m)	Variance (%)	1994 Report (Fcst) (Dfl m)	1995 Report (Fcst) (Dfl m)	Variance (Amount) (Dfl m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	220	220	0	0	500	480	20	4	18	17
- Platform Operations	80	80	0	0	160	165	(5)	(3)	14	14
- Application Operations	140	140	0	0	350	315	35	10	20	19
Desktop Services	70	70	0	0	240	260	(20)	(8)	27	28
Network Management	30	30	0	0	65	55	10	15	17	14
Application Management	45	45	0	0	135	145	(10)	(7)	25	27
Total IS Outsourcing	365	365	0	0	940	930	10	1	21	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-12

Information Systems Outsourcing Market Forecast Reconciliation, Norway

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (NK m)	1995 Report (Act) (NK m)	Variance (Amount) (NK m)	Variance (%)	1994 Report (Fcst) (NK m)	1995 Report (Fcst) (NK m)	Variance (Amount) (NK m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	215	215	0	0	460	430	30	7	17	15
- Platform Operations	90	90	0	0	160	170	(10)	(6)	12	12
- Application Operations	125	125	0	0	300	260	40	13	20	16
Desktop Services	50	50	0	0	155	165	(10)	(6)	25	25
Network Management	30	30	0	0	65	53	12	19	17	14
Application Management	25	25	0	0	67	52	15	22	22	20
Total IS Outsourcing	320	320	0	0	750	700	50	7	19	17

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-13

Information Systems Outsourcing Market Forecast Reconciliation, Portugal

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Esc m)	1995 Report (Act) (Esc m)	Variance (Amount) (Esc m)	Variance (%)	1994 Report (Fcst) (Esc m)	1995 Report (Fcst) (Esc m)	Variance (Amount) (Esc m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	1010	1010	0	0	2310	2350	(40)	(2)	18	17
- Platform Operations	405	405	0	0	810	860	(50)	(6)	15	15
- Application Operations	605	605	0	0	1500	1500	0	0	20	19
Desktop Services	320	320	0	0	975	970	5	0	25	27
Network Management	145	145	0	0	290	255	35	12	15	14
Application Management	460	460	0	0	925	960	(35)	(4)	15	20
Total IS Outsourcing	1935	1935	0	0	4500	4500	0	0	18	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.　　　　*Source: INPUT*

Exhibit D-14

Information Systems Outsourcing Market Forecast Reconciliation, Spain

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Pts m)	1995 Report (Act) (Pts m)	Variance (Amount) (Pts m)	Variance (%)	1994 Report (Fcst) (Pts m)	1995 Report (Fcst) (Pts m)	Variance (Amount) (Pts m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	5800	7600	(1800)	(31)	12900	18000	(5100)	(40)	17	18
- Platform Operations	3000	3900	(900)	(30)	5300	8000	(2700)	(51)	12	14
- Application Operations	2800	3700	(900)	(32)	7600	10000	(2400)	(32)	22	22
Desktop Services	600	800	(200)	(33)	2400	2650	(250)	(10)	32	28
Network Management	2200	2900	(700)	(32)	4400	5600	(1200)	(27)	15	17
Application Management	600	700	(100)	(17)	1900	1660	240	13	25	21
Total IS Outsourcing	9200	12000	(2800)	(30)	21600	27800	(6200)	(29)	19	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-15

Information Systems Outsourcing Market Forecast Reconciliation, Sweden

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (SK m)	1995 Report (Act) (SK m)	Variance (Amount) (SK m)	Variance (%)	1994 Report (Fcst) (SK m)	1995 Report (Fcst) (SK m)	Variance (Amount) (SK m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	1750	1750	0	0	900	4000	(3100)	(344)	17	17
- Platform Operations	500	500	0	0	3000	1050	1950	65	13	15
- Application Operations	1250	1250	0	0	3900	2950	950	24	19	18
Desktop Services	390	390	0	0	1200	1350	(150)	(13)	25	25
Network Management	150	150	0	0	300	290	10	3	16	17
Application Management	145	145	0	0	430	350	80	19	25	21
Total IS Outsourcing	2450	2450	0	0	5800	6000	(200)	(3)	19	19

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-16

Information Systems Outsourcing Market Forecast Reconciliation, Switzerland

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (SF m)	1995 Report (Act) (SF m)	Variance (Amount) (SF m)	Variance (%)	1994 Report (Fcst) (SF m)	1995 Report (Fcst) (SF m)	Variance (Amount) (SF m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	90	90	0	0	190	225	(35)	(18)	17	20
- Platform Operations	23	23	0	0	40	50	(10)	(25)	12	15
- Application Operations	65	65	0	0	150	175	(25)	(17)	18	22
Desktop Services	15	15	0	0	50	50	0	0	30	28
Network Management	11	11	0	0	23	20	3	13	15	14
Application Management	6	6	0	0	20	13	7	37	25	20
Total IS Outsourcing	120	120	0	0	280	310	(30)	(11)	19	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-17

Information Systems Outsourcing Market Forecast Reconciliation, United Kingdom

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (Ps m)	1995 Report (Act) (PS m)	Variance (Amount) (PS m)	Variance (%)	1994 Report (Fcst) (PS m)	1995 Report (Fcst) (PS m)	Variance (Amount) (PS ,)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	710	710	0	0	1600	1900	(300)	(19)	18	19
- Platform Operations	220	220	0	0	350	360	(10)	(3)	10	9
- Application Operations	490	490	0	0	1260	1550	(290)	(23)	21	22
Desktop Services	85	85	0	0	260	270	(10)	(4)	25	24
Network Management	90	90	0	0	180	175	5	3	15	17
Application Management	45	45	0	0	170	145	25	15	30	24
Total IS Outsourcing	925	925	0	0	2200	2500	(300)	(14)	19	20

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

Exhibit D-18

Information Systems Outsourcing Market Forecast Reconciliation, Eastern Europe

Delivery Mode	1994 Market				1999 Market				1994	1995
	1994 Report (Fcst) (USD m)	1995 Report (Act) (USD m)	Variance (Amount) (USD m)	Variance (%)	1994 Report (Fcst) (USD m)	1995 Report (Fcst) (USD m)	Variance (Amount) (USD m)	Variance (%)	Report CAGR (Fcst)	Report CAGR (Fcst)
Systems Operations	17	17	0	0	66	47	19	28	31	19
- Platform Operations	9	9	0	0	26	28	(2)	(10)	24	23
- Application Operations	8	8	0	0	40	20	20	50	38	15
Desktop Services	3	3	0	0	15	12	3	20	38	32
Network Management	3	3	0	0	8	5	3	33	23	17
Application Management	0	0	0	0	0	0	0	(169)	0	24
Total IS Outsourcing	23	23	0	0	89	65	24	27	31	21

Because of rounding, data may not add to totals. CAGRs are calculated on pre-rounded values.   *Source: INPUT*

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E-1
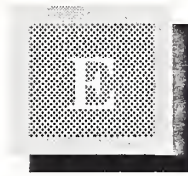
Economic Assumptions

Exhibit E-1 lists the exchange rates used to prepare the forecasts in this report.

Exhibit E-1

E-2

US Dollar and ECU Exchange Rates: 1995

Country	Currency	US Dollar	ECU
Europe	$	1	0.815
France	FF	5.34	6.54
Germany	DM	1.55	1.90
United Kingdom	PS	0.639	0.784
Italy	Lira (K)	1.62	1.99
Sweden	Sek	7.43	9.11
Denmark	DK	6.08	7.46
Norway	NK	6.76	8.29
Finland	FM	4.74	5.82
Netherlands	Dfl	1.74	2.13
Belgium	BF	31.8	39.00
Switzerland	SF	1.31	1.60
Austria	Sch	10.9	13.40
Spain	Ptas	131.6	161.40
Ireland	IP	0.647	0.794
Portugal	Esc	159.2	195.20
Greece	Dra	240.6	295.20
Eastern Europe	$	1	0.815

Source: Financial Times January 1995

Exhibit E-2

Inflation Assumptions 1994 and 1995

Country	Assumption 1994-1999	Assumption 1995-2000	Change
France	1.9	1.9	0.0
Germany	2.9	2.4	-0.5
United Kingdom	3.0	2.9	-0.1
Italy	3.2	3.2	0.0
Sweden	2.0	2.4	0.4
Denmark	2.6	2.8	0.2
Norway	1.5	2.3	0.8
Finland	2.0	3.2	1.2
Netherlands	2.0	2.3	0.3
Belgium	2.2	2.4	0.2
Switzerland	1.7	2.1	0.4
Austria	2.8	3.1	0.3
Spain	3.4	2.6	-0.8
Portugal	4.8	3.8	-1.0
Greece	11.2	5.3	-5.9
Ireland	3.3	2.8	-0.5
Eastern Europe	-	-	-
European Average	2.8	2.6	-0.2

Source: OECD December 1994

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F-1
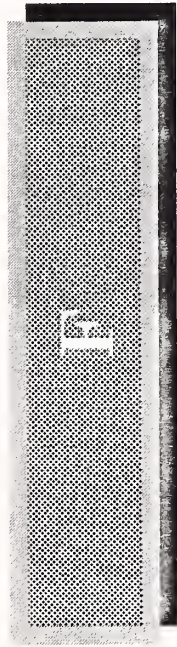
Key Indicators

Exhibits F-1 - F-9 summarise some of the key indicators discussed in Chapter IV.

Exhibit F-1

Principal Business Pressures

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Improved customer service levels	Improved customer service levels	Improved partnerships with major suppliers	Improved international coverage	Competition for distribution channels	Improved partnerships with major suppliers	Improved international coverage
Interworking with major customers	Cost competition	Interworking with major customers	Improved support of international activities	Cost competition	Interworking with major customers	Cost competition
Improved international coverage	Need to introduce new services	Introduction of new models/services	Improved customer service levels	Improved partnerships with major suppliers	Improved customer service levels	Interworking with major customers
Improved support of international activities	Competition for distribution channels		Interworking with major customers	Improved customer service levels	Competition for distribution channels Cost competition	Improved customer service levels

Source: INPUT

Exhibit F-2

Key Actions

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Improve customer service	Improve customer service	Become more efficient	Become more efficient	Improve customer service	Improve customer service	Improve customer service
Increase core business focus	Increase speed of introduction of services	Increase flexibility of business processes	Improve customer service	Become more efficient	Become more efficient	Reduce cost of business processes
Become more efficient	Become more efficient	Reduce cost of business processes	Reduce cost of business processes	Increase core business focus	Reduce cost of business processes	Become more efficient
		Improve customer service		Improve effectiveness of business processes		Increase flexibility of business processes

Source: INPUT

Exhibit F-3

Most Important IT Challenges

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Applying IT to the business	Applying IT to the business	Applying IT to the business	More cost-effective use	Using IT for competitive advantage	More cost-effective use	Applying IT to the business
Using IT for competitive advantage	Adopting more distributed architecture	More cost-effective use	Applying IT to the business	Applying IT to the business	Applying IT to the business	Using IT for competitive advantage
More cost-effective use	Improving focus of IT department	Using IT for competitive advantage	Using IT for competitive advantage	More cost-effective use	Using IT for competitive advantage	More cost-effective use
More use of IT	Using more IT	Adopting more distributed architecture	More use of IT	More use of IT		Adopting more distributed architecture
International IT co-ordination	More cost-effective	Improving focus of IT department	Adopting more distributed architecture	Adopting more distributed architecture		

Source: INPUT

OSMR

Exhibit F-4

Least Important IT Challenges

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Reduce IT expenditure	Replace mainframe-based systems	Improve support for operational systems	Reduce IT expenditure	International IT co-ordination	International IT co-ordination	Replace mainframe-based systems
Improve support for operational systems	Redevelopment of key systems	International IT co-ordination	Replace mainframe-based systems	Replace mainframe-based systems	Replace mainframe-based systems	Increase use of IT
Replace mainframe-based systems	International IT co-ordination	Change IT infrastructure	Improve support for operational systems	Reduce IT expenditure	Change IT infrastructure	Redevelopment of key systems
Change IT infrastructure	Change IT infrastructure	Replace mainframe-based systems	Change IT infrastructure	Improve support for operational systems		

Source: INPUT

Exhibit F-5

Areas of Highest Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Business orientation and understanding	Pro-active support for the business	None	None	Business orientation and understanding		Effectiveness in applying IT
Understanding of new technologies				Focus on systems provision		Business orientation and understanding
Pro-active support for the business						Pro-active support for the business

Source: INPUT

Exhibit F-6

Areas of Lowest Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale distribution	Transportation
System development timescales	Speed of application introduction	Effectiveness in applying IT	IT for competitive advantage		Speed of application introduction	System development timescales
Speed of application introduction	Focus on systems provision not operational support	System development timescales	Focus on systems provision not operational support		Ability to support bpr	Speed of application introduction
Geographic support coverage	System development timescales	IT for competitive advantage	Speed of application introduction		System development timescales	
	Understanding of new technologies	Overall cost-effectiveness	Effectiveness in applying IT		IT for competitive advantage	

Source: INPUT

Exhibit F-7

Largest Shortfalls: Importance vs Satisfaction

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
New system development	Application selection and integration	New system development	Wide area connectivity	Support of distributed environment	Support of distributed environment	New system development
Support of branch locations	New system development	Application selection and integration	New system development	Support of branch locations	Datacentre operation	Wide area connectivity
Support of distributed environment		Support of distributed environment	Support of branch locations	New system development	New system development	Application selection and integration
		Support of branch locations	Support of distributed environment Application selection and integration	Application selection and integration	Support of branch locations	Support of branch locations Support of distributed environment

Source: INPUT

OSMR

Exhibit F-8

Least Desire to Perform In-house

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Datacentres	New system development	Operation of datacentres	Operation of datacentres	Operation of datacentres		Application selection and integration
Application maintenance	Application selection and integration	New system development	Application maintenance	Application maintenance		New system development
New system development	Support for wide area connectivity	Support for wide area connectivity				Operation of datacentres
		Application maintenance				Support for wide area connectivity and LANs

Source: INPUT

Exhibit F-9

Highest Desire to Perform In-house

Banking & Finance	Insurance	Discrete manufacturing	Process Manufacturing	Retail Distribution	Wholesale Distribution	Transportation
Support of branch locations	Application maintenance		Support of branch locations	New system development	WAN support	
Day-to-day desktop support	Operation of datacentres			Application selection and integration		
WAN support	Support of branch locations			Support of branch locations		

Source: INPUT

OSMR